CHAPTER 4 - MAINTENANCE

4.1 - ADMINISTRATIVE

4.1.1 - PURPOSE

To announce policy and establish procedures to be followed in conducting administrative and personnel activities within the organization.

4.1.2 - HOURS OF OPERATION

Employees will normally work forty hours per week. Normal workdays are Monday through Friday. Normal work hours are 0700-1530 hours with one half hour for the lunch period from 1130-1200 and two break periods at 0915-0930 hours and 1345-1400 hours. The “weekend” will normally be considered to be Saturday and Sunday. Federally recognized holidays shall be observed the day on which they occur.

4.1.3 - UNIFORMS

a. All employees will wear the uniform appropriate to their service and federally recognized grade when performing their duties. The appropriate uniform to be worn by LAAASF employees will be one of the seven described below:
(1) Battle Dress Uniform (BDU) with sleeves rolled down, front buttoned, and safety shoes.
(2) BDU with sleeves rolled up, front buttoned and safety shoes.
(3) Coveralls and safety shoes.
(4) Flight suit, boots, and appropriate life support equipment when performing flight duties.
(5) Army class A or B uniform when required.
(6) BDU with blouse off, “T” shirt tucked in, and safety shoes. This uniform will be worn on the flight line and hangar only.
(7) When going beyond the north fence appropriate headgear and military boots will be worn.
b. Non-military (civilian) employees may wear appropriate clothing consisting of long or short sleeve shirt or T-shirt, long pants, and safety shoes. Regardless of which uniform an employee chooses to wear, the uniform will be kept neat and clean with boots/shoes shined and both name and U.S. Army tags legible. Headgear must be worn anytime an employee leaves the flight line. Personal grooming and uniform wear will conform to military standards set forth in AR 670-1.

4.1.4 - PERSONNEL ACTIONS

Requests for personnel action (promotion, reassignments, details, job announcements, and terminations) will be forwarded to the administrative specialist and signed by the appropriate supervisor IAW the California National Guard Technician Personnel Manual.

4.1.5 - TIME AND ATTENDANCE ACCOUNTING

An attendance roster will be prepared by the supervisors or their designated representative and forwarded to the Administrative Specialist by close of business on the Wednesday prior to the end of the pay period. When there is a holiday on Friday or Monday following submission date for the T&A must be submitted one day early. The Administrative Specialist shall maintain time and attendance forms and all supporting documents (orders, leave slips or other supporting documents).

4.1.6 - ANNUAL LEAVE POLICY

All technician leave requests will be submitted on a SF 71 (Application for leave) and approved/disapproved by the appropriate supervisor. All leave requests for ADSW and AGR will be requested on DA Form 31. Depending on the length of employment, technician employees will accrue annual leave at the rate of 4, 6, or 8 hours per pay period. To the extent possible annual leave will be submitted three days in advance. AGR and ADSW employees accrue 30 days leave a year and must also submit their request three days in advance if possible.

4.1.7 - SICK LEAVE POLICY

Technicians must call in sick the first day NLT 0900. If in excess of three days, a doctor's certificate may be required or a statement from the individual stating the nature and reason a doctor was not utilized. The certificate/statement from the individual may be accepted. AGR and ADSW Personnel sick leave will be given in accordance with the CAL ARNG AGR SOP.

4.1.8 - INJURIES

Any injuries must be reported immediately to the supervisor and a CA-1 will be initiated without delay no matter how minor the injury may initially be. The procedures in the TPM will then be followed.

4.1.9 - SMOKING POLICY

Smoking is permitted only in authorized smoking areas. For hangar #1, the authorized smoking area is located outside underneath the stairwell at the southeast corner of the hangar. For hangar #2, the authorized smoking area is located at the southwest corner of the hangar adjacent to the old Battery Shop.

4.1.10 - IN PROCESSING ORIENTATION FOR NEW PERSONNEL

In processing will include a briefing by the Aircraft Maintenance Supervisor IAW Annex A-11 (In processing Orientation) and A-12 (Occupational Health and Safety Briefing).

4.1.11 - MAINTENANCE TRAINING (OPERATION OF GSE, AIRCRAFT APU'S, CRANES, TUGS, MAINTENANCE PROCEDURES, ETC)

- **Training of maintenance personnel will include: New Employee Training, Training that is determined necessary as a result of safety trends, , Training necessary due to automation and Training as directed by the Maintenance Officer(MO).**
- **All training will be conducted IAW WS #14 (Training Outline) and address the Training Objective (Task, Condition, Standard, Safety) and if applicable the test outline.**
- **Training Outlines will be kept in a Training Binder with a copy of the memorandum of individuals that completed the training and any additional information necessary.**
- **Training will be documented on the employees NGB 904-1 and kept as a permanent file.**
- **A copy of the memorandum showing completion of training for equipment operation that needs to be annotated on a employees Military License, will be forwarded to the employees Unit Commander with a request stating that the individuals license be revised with the appropriate qualifications annotated.**

4.1.12 - FILES MANAGEMENT

The Army Marks system will be utilized in Production Control, Quality Control, Supply and any other sections where files are kept for essential operations to include Technical Library's.

4.2 - MAINTENANCE

4.2.1 - PURPOSE

To establish the LAAASF maintenance policies, responsibilities, and procedures for Full Time Support (FTS) personnel to utilize in the performance of conducting maintenance on Army aircraft, their sub components and armament systems.

4.2.2 - REFERENCES

DA Pam 738-751
FM 3-04.500 (FM 1-500)
ULLS-A End User Manual
TM 1-1500-250-23

4.2.3 - GENERAL

a. Organization: The maintenance division is under the direct supervision of the Aircraft Maintenance Supervisor and is comprised of four separate sections consisting of Two Aircraft Flight line Maintenance sections, a Phase Maintenance Section, an Allied Shops section and an Avionics section.

b. General Maintenance Policies: The AASF in keeping with Army Aviation Policies will provide maintenance support for aircraft hand receipted to the facility from supported units. Work that is beyond the capability of the AASF will be processed to the CA AVCRAD or a depot level repair facility. Maintenance will be performed according to published doctrine at the lowest level consistent with the tactical situation, skills, time, repair parts, tools, and test equipment available. Contact teams may be sent from the CA AVCRAD to support the AASF and repairs should be made “on site” whenever possible. For more information on AVCRAD support see the CA AVCRAD SOP.

(1) Unserviceable material requiring repair beyond the maintenance capability of the AASF will be promptly reported or evacuated to the next higher maintenance level.

(2) Work will be completed by the smallest possible number of personnel, except where training is being conducted to train additional workers.

(3) Supported units must be advised that if practical, all maintenance that is within the unit’s capability will be accomplished on the IDT drills IAW the MOU between LAAASF and tenant units. The units should coordinate all maintenance activities to be conducted through a full time representative belonging to the Maintenance Officer, General Aircraft Systems Supervisor, or Allied Shop Supervisor prior to drill.

(4) As a last resort, controlled exchange may be used as a means of obtaining repair parts and assemblies to support maintenance of equipment (see AR 750-1). Annex A-1 (Controlled Exchange Worksheet) must be completed and approved prior to initiating controlled exchange procedures.

(5) Maintenance will be performed according to guidelines in the applicable technical publications and cost limitations for repairs.

(6) Work standards: Section supervisors will establish standard procedures for work accomplishment. Work standards should be reviewed regularly and revised as needed.

(7) Use of resources: The effective use of resources equates to the full use of available skills, tools, and equipment to make required repairs in the least amount of time. A well-organized work area where tools, parts, consumable supplies, and repair manuals are readily available to the mechanic will greatly assist in attaining efficient maintenance operations. A mechanic should be assigned enough work to keep busy for the full work period.

4.2.4 - PERSONNEL DUTIES AND RESPONSIBILITIES

a. GS-12 Aircraft Maintenance Officer: Represents the AASF commander in all aircraft maintenance matters and is responsible for the efficient management, safety, and effective functioning of all aircraft maintenance performed by the AASF. Additionally:

(1) Supervises administration within the maintenance sections to ensure timely preparation of reports and correspondence.

(2) Exercises supervision and technical jurisdiction over all the elements of the maintenance division and is responsible for the planning and execution of unit aircraft maintenance personnel training.

(3) Provides technical advice and recommendations concerning evaluation and repair of damaged aircraft.

(4) Makes a recommendation to the commander concerning controlled exchange. Oversees supply needs and other matters that affect the timely completion of assigned work.

(5) Coordinates the accomplishment of maintenance test flights with the quality control section. Performs maintenance test flights and maintenance operational checks as required.

(6) Assigns production control duties to key personnel and insures that they are in compliance with all applicable regulations.

(7) Assigns priorities of work to the Quality Control section.

b. WS-10 Aircraft Mechanic Supervisor:

(1) Responsible to the Maintenance Officer for the supervision of personnel actions, training assignments, and the coordination of personnel work assignments to support the required maintenance workload. Coordinates work, assigns duties, and instructs subordinates in maintenance work techniques and procedures. Ensures that use of spot checks and personal inspections of work areas have employed proper maintenance techniques. He also applies production, quality control, and other maintenance management principles and procedures in recommending such action as reassignment of duties and requirements for training to improve work performance.

(2) Responsible for the following Production Control Duties: Maintains coordination and an open communication path with Quality Control, The Aircraft Systems Supervisor, the Avionics Supervisor and the Flight Line Section Supervisors so inter-shop workload is consistent with the overall AASF maintenance objectives. Manages maintenance requests, Annex A-13 (Maintenance Request Sheet) and the DA Form 2405 register for internal work orders through the ULLS-A system. Maintains the DA Form 2407s and DA Form 2405 register for external work orders to the CA AVCRAD and other agencies.

c. WS-10 Aircraft Systems Supervisor (ASS or Allied Shop Supervisor):

(1) Responsible to the Maintenance Officer for the supervision of personnel actions, training assignments, and the coordination of personnel work assignments of the Allied Shop personnel.

(2) Responsible for the following Production Control duties: Manages maintenance requests (Annex A-13) and the DA Form 2405 register for internal work orders. Ensures the daily updates of ULLS-A maintenance requests are turned in to Production Control.

d. WS-10 Electronic Mechanic Supervisor (EMS):

(1) Responsible to the Maintenance Officer for the supervision of personnel actions, training assignments and the coordination of all work that is assigned to the Avionics and Electrical shops.

(2) Responsible for the following Production Control Duties: Manages maintenance requests, Annex A-13, and the DA Form 2405 register for internal work orders. Ensures the daily updates of ULLS-A maintenance requests are turned into Production Control.

e. WS-9 Aircraft Flight Line Maintenance Supervisor:
(1) Responsible for properly maintaining daily entries on the DA Form 1352-1 to show reasons for all down time on the aircraft undergoing maintenance or awaiting supply action.
(2) Manage a maintenance section engaged in unit, intermediate, and authorized limited depot aircraft maintenance of end items and components. As a first line supervisor for the maintenance officer, must be qualified to plan and direct maintenance activities for removal, installation, modification, overhaul, and repair of aircraft systems and components such as engines, airframes, accessories, instruments, rotor blades, powertrain, armament, avionics, pneudraulics, electrical, and fuel systems.
(3) Monitors all scheduled and unscheduled maintenance to ensure conformity to current TMs, MWOs, and any other applicable maintenance publications. Ensures all ULLS-A laptop computers are maintained as outlined in the ULLS-A SOP.
(4) Maintains a thorough knowledge of technical publications, directives, and up to date maintenance techniques. Ensures that an up to date technical library containing all publications required to repair supported aircraft components is maintained, and that subordinates are kept informed of technical manual and maintenance procedure changes.
(5) Ensures the proper reports and paperwork for the end item or component being worked is submitted to Supply and/or Quality Control as required by the Maintenance or Quality Control SOPs.
(6) Ensures that assigned aircraft and facilities are secured prior to the close of business each day.
(7) Reviews all assigned mechanics paperwork for accuracy.
(8) Assigns work tasks and priorities to mechanics.
(9) Ensures aircraft/paperwork is in an acceptable condition prior to being released to the units/operations for flight.
f. WS-9 Phase Maintenance Supervisor: Responsible for all phase maintenance that is conducted by subordinate mechanics. Phases will normally be performed in the dock; hangar 2.
g. WG-11 Aircraft Mechanics: Each mechanic will have one or more aircraft that they will be responsible for and will:
(1) Regularly review all their assigned aircraft logbooks and ULLS-A laptop computers for proper entries and perform any necessary corrective actions needed.
(2) Initiate all maintenance action.
(3) Monitor progress and correct deficiencies on their assigned aircraft which are in phase maintenance either prior to the actual phase inspection or during.
(4) Responsible for all duties and work assignments issued by their respective Supervisor.
(5) Maintain all scheduled and unscheduled maintenance to ensure conformity to current TMs, MWOs and any other applicable maintenance publications. This includes all requirements of the ULLS-A laptop.
(6) Maintain a thorough knowledge of technical publications, directives and up to date maintenance techniques.
(7) Maintain an up to date technical library containing all publications required to repair supported aircraft and components. This includes ensuring that subordinates are kept informed of technical manual and maintenance procedure changes.
(8) Ensure the proper paperwork for the end item or component being worked is submitted to the Maintenance Supervisor, Supply and/or Quality Control as required.
(9) Ensure that assigned aircraft, equipment and tools are secured prior to the close of business each day.

(10) Ensure that toolboxes and work area are cleaned prior to departure from the work area or departure at the end of the workday.
(11) Comply with FOD requirements on aircraft, hangar, work area and flight line.
(12) Comply with HAZMAT requirements for use, storage and disposal.
(13) Maintain assigned aircraft in a high state of flyable readiness.
(14) Order any needed repair parts on ULLS-A laptop after receiving the approval from Supervisor.
(15) Review DA Form 2408-18 to comply and complete all scheduled inspections.
(16) Maintain and correct all flight packs IAW DA Pam 738-751 prior to submission to Supervisor.

4.2.5 - MAINTENANCE PROCEDURES

a. Unless authority to perform a higher level of maintenance has been approved through the Maintenance Officer, the Aircraft System Supervisor, or the Aircraft Mechanic Supervisor, through the CA AVCRAD or other depot i.e. CCAD, AMCOM, then each maintenance section will operate within the limits of the echelon shown in the maintenance allocation charts pertinent to the work required (AVUM/AVIM).
b. Maintenance priorities will be established during the weekly production control meeting. Work requests for shops will be coordinated through the Aircraft Systems Supervisor and Aircraft Electronic Supervisor.
c. Upon completion of maintenance, all work orders will be closed out, signed and returned to the Production Control Office for filing.
d. Safety: The following is the minimum that must be adhered to at all times:
(1) All fire extinguishers must be on hand and in a serviceable condition IAW existing directives.
(2) First aid kit must be within close proximity to the shop.
(3) All flammable material will be stored in either the POL Shed or Paint Locker. Exceptions will be small amounts of grease, oil and paint as required for daily use.
(4) All electrical equipment will be inspected before use to ensure safe operation.
(5) All power supplies and/or on-off switches will be off prior to connecting power cables.
(6) All jewelry, watches and ID tags will be removed prior to performing any maintenance.
(7) Hearing and eye protection will be used when appropriate. All personnel will have earplugs in their possession at all times.
(8) Extreme care will be used around operating machinery; i.e., hydraulic, electronic power unit and especially aircraft.
(9) Static electricity can cause extensive damage to electrical circuits; therefore, armament personnel will follow personnel and equipment grounding procedure.

4.2.6 - MATERIAL READINESS REPORTING (1352)

a. The 1352-1 report will be updated daily by the WS-9 section supervisors for the aircraft that are assigned to their section.
b. When an aircraft is reported NMCM, NMCS, or PMC a brief explanation will be annotated on that 1352-1.
c. On the 15th of each month the 1352-1 reports will be sent to the Production Control Office. The reports will then be processed to produce the 1352 report, complete with all annexes and commanders notes, and submitted to NGB.
d. The 1352 report will be prepared IAW NGR 95-33, AR 700-138, ALRM and AR 220-1.

4.2.7 - HOUSEKEEPING PRACTICES

a. The provisions of TM 1-1500-204-23/1-10 will apply to hangar operations at LAAASF unless otherwise specified in other manuals, regulations, or directives. Specifically all shops in the LAAASF

will be swept out daily. Oily rags will be placed in the appropriate containers and removed at the end of the workday. All flammables will be stored in flammable storage containers provided. The work areas will be swept daily. A thorough cleaning of all hangar floors will be performed weekly.
b. On a daily basis Annex A-5 (Aircraft Daily Inspection Checklist) will be filled out and placed in a visible location on all aircraft undergoing maintenance.

4.2.8 - AIRCRAFT RECOVERY

a. Downed aircraft under circumstances which require an Accident Investigation Board:
(1) The recovery crew, upon arrival to the downed aircraft site, will not do anything to the aircraft or the site until the accident board has released the aircraft for movement.
(2) After release for movement of the aircraft has been obtained, the same procedures for movement of a downed aircraft with maintenance problems will be followed (see para. b).
b. Downed aircraft with maintenance problems:
(1) A recovery team made up of an MTP, an Aircraft Technical Inspector and an Aircraft Mechanic will be dispatched to the downed aircraft site.
(2) The recovery team will determine if the aircraft can be repaired on site. If repairable, the aircraft will be repaired prior to flight to its home station. If the aircraft is in an inaccessible area and it has been determined that it is safe to fly the aircraft out of the field site, it should be flown to the nearest suitable area for repair.
(3) If the aircraft requires repairs, but the aircraft recovery crew deems the aircraft to be safe to fly in its present configuration to the facility, approval to do so must be given by the commander or his designated representative.

WARNING
The recovery team recovering the aircraft will not make arbitrary decisions to recover the aircraft with known deficiencies without prior approval of the commander

(4) If the aircraft requires repairs beyond the capability of the recovery team and it is determined that the aircraft needs to be transported to the facility for the necessary repairs, the Maintenance Officer will be notified and arrangements will be made to ground handle the aircraft by organic assets first. If organic assets are not available arrangements for assistance from the CA AVCRAD or commercial services will be requested.
(5) If the aircraft is in a remote area where ground transportation is not possible, the Maintenance Officer will be notified and arrangements will be made for aerial transportation to the nearest location where the aircraft may then be transported on the ground to its destination.

NOTE: ASE security will be in accordance with the COMSEC Appendix of the Facility SOP.

4.2.9 - HANGAR & WASHRACK PARKING

a. When parking aircraft in the hangar the aircraft will be positioned so that adequate working space between helicopters is available during normal operations. This will be a minimum of four feet between the widest points of the aircraft.
b. The battery will be disconnected at all times while the aircraft is in the hangar. The fuel tank will be topped off or defueled and drip pans will be placed under engines and/or engine/transmission vent line areas.
c. Ensure that all weapons are unloaded and explosive cartridges are removed from aircraft.
d. Install all safety devices.
e. Aircraft will be grounded at all times when parked for maintenance or storage.

4.2.10 - AIRCRAFT STORAGE

a. The maintenance officer shall be responsible for initiating action to place aircraft into appropriate storage category while taking into consideration the length of time the aircraft shall be stored and local climatic conditions. Such action shall be in accordance with existing directives, using the minimum requirements. Minimum requirements shall be sufficiently critical to ensure that airframes, systems, components, and assemblies shall be processed to a satisfactory state of preservation. Every effort shall be expended by the storage process to ensure that stored aircraft can be withdrawn from storage with a minimum expenditure of man-hours and minimum requirements for parts. Storage requirements will be found in TM 1-1500-204-23/1-10 and the applicable aircraft maintenance manual.

b. Aircraft placed in outside storage shall be spaced a sufficient distance apart to provide adequate clearance for maintenance, servicing, and fire lanes. Aircraft shall be secured and moored using the existing tie down points and chains at each parking spot.

4.2.11 - MAINTENANCE TEST FLIGHTS

a. A Maintenance Test Flight (MTF) is a flight for which the primary mission is to determine airworthiness of the aircraft. A General Test Flight (GTF) is intended to evaluate the airworthiness of the entire aircraft and prove all systems/components are functioning properly as prescribed in applicable aircraft maintenance manuals. A Limited Test Flight (LTF) is intended to evaluate the functioning of a specific item/component or system. Only aviators who have successfully completed the Maintenance Manager/Maintenance Test Pilot Course or an MP equivalency evaluation administered by a ME selected by HQDA and are a current PC in the assigned aircraft may perform MP duties.

b. MTFs must be formally briefed by a designated briefer on Annex A-6 (Maintenance Air Crew Briefing). Both sides shall be completed before performance of the test flight. Either the Shop Foreman or Maintenance Officer will accomplish coordination for MTFs. The test flight must also be briefed at flight operations and the sheet shall remain on file at operations. All MTFs will be conducted and documented IAW TM 1-1500-328-23 and DA Pam 738-751. The briefing sheet must be closed out before the end of the day for successful completion, non-completion or cancellation of the MTF.

c. There are two MTF areas. Area #1 extends south from the Airfield along the shoreline at Anaheim Bay to the Anaheim River. It also extends from Anaheim Bay west through the Long Beach (LGB) class D airspace then along the shoreline to Point Vicente. After passing the Queen Mary the air to air frequency is VHF 129.00. After passing Point Fermin the air to air frequency is VHF 122.85. Area #2 extends from Corona airport south along Highway 15 to the end of the valley. It includes Chino, Corona, French Valley and Riverside airports for maintenance checks and adjustments as well as ration support.

4.2.12 - MAINTENANCE OPERATIONAL CHECKS

a. A Maintenance Operational Check (MOC) consists of checks accomplished on the ground through engine run-up or use of auxiliary power or test equipment, in such a manner as to simulate, insofar as possible, conditions under which the system is to operate.

b. MOCs must be formally briefed by a designated briefer on Annex A-6 (Maintenance Aircrew Briefing). The briefing sheet must be closed out before the end of the day for successful completion, non-completion or cancellation of the MOC.

c. Whenever a MOC requires that engines be started in a rotary wing aircraft a qualified commander authorized crew, as specified in the appropriate operator's manual, shall be at the proper station and manning the controls. Non-MTPs must be on orders, have been trained by an MTP/MTFE for the

specific MOC tasks and have their CTLs annotated. Also, non MTPs may not operate aircraft engines for completing MOCs if the aircraft will require a test flight upon completion of the MOC or if the aircraft has an open Red "X" (except for an overdue 14 day run-up).
d. Whenever an aircraft engine or APU is to be operated Base Operations must be notified beforehand and when all operations are completed.

4.2.13 - AUXILIARY POWER UNIT OPERATION (UH-60 PROCEDURES)

a. Purpose: To establish standard procedures for the selection, training, qualification and administration requirements for designated personnel, other than aviators, to perform APU operations on UH-60 Helicopters.
b. Applicability: The outlined APU requirements apply to personnel assigned/attached to the LAAASF.
c. Concept: Before a non-aviator is authorized to operate a UH-60 APU, he will be selected, trained, and evaluated. The individual must pass a written examination and hands on performance test. Once qualified the individual will be placed on facility orders, signed by the Facility Commander authorizing APU operations on supported aircraft. The facility Standardization Instructor (SI) will establish and maintain all files for this program. The qualification course requirements are located at the end of this maintenance SOP.
d. Implementation:
(1) Selection: The aircraft foreman will forward his recommendation to the Maintenance Officer based on personnel assessment of the individual's competence, reliability, maturity, and the needs of the Facility. The Maintenance Officer will be the approving authority for the initiation of the training process.
(2) Training: All applicants will receive training applicable for APU operations; e.g. starting, shutdown and emergency procedures. Trainers will meet the following criteria:
(a) IP/MP/SI/FI who has been designated as an authorized instructor as noted in this SOP.
(b) Trainers will be designated in writing by the Commander.
(c) Evaluators must be designated in writing by the commander and be a UH-60 IP, MP or an FI or SI that is already qualified as an APU operator.
(3) Qualification: once training is completed, a designated evaluator will give a hands on safety check of the procedures for preflight, run-up, shutdown, emergency procedures, and limitations. A written test will also be administered and must be passed with a minimum score of 100%.
(4) Administrative: Once qualified, orders will be issued by the Commander and maintained IAW paragraph c. Records will also reflect annual re-qualification dates.
(5) Continuation Training: Once qualified, the APU operator will be given a hands-on performance and a written annual examination. These will be administered by an evaluator and annotated in Individual Training Folders.
(6) Safety: During start-up and operation of the APU, a fireguard will be present and posted. During any and all operating phases, the operator will remain seated at the co-pilot station in order to monitor the appropriate gauges and caution lights.
e. The monitor of this program will be the Facility SIP.

4.2.14 - SAFETY WIRING & COTTER PINS

a. Safety wiring that is required by the applicable aircraft maintenance manuals will be installed IAW TM 55-l500-204-23-1 through 10, Mil Std 33540 and the QC portion of this SOP.
b. Safeties that are required by the applicable aircraft maintenance manuals will be installed prior to operation and/or flight of the aircraft. When a safety must be removed for the adjustment of a component during operation of the aircraft, the safety will be installed after the adjustment is satisfactorily completed before flight.

c. Additional safeties required by this section, and listed below will be installed IAW paragraph (b) above.

(1) Quick Disconnect Type Clamps. Any type of clamp that uses a “slotted barrel” that can rotate or a “quick coupler latch” to facilitate in the removal of the clamp or components shall have the quick disconnect release mechanism safetied to prevent it from operating.

(2) “T” Bolt Clamps. Any “T” bolt clamp not employing any form of a quick release mechanism shall be safetied.

(3) Engine Mount Retention Caps to Pillow Blocks. On the T53 engine, the safety wire will start at the trunnion bolt going to the bearing cap, wrapped around the cap and ending at the cap’s retention bolt with a pigtail securing the retention bolt’s nut.

(4) Electrical Connectors on Instruments. All electrical connector plugs will be safetied. Do not safety connectors that have a mechanical locking feature.

(5) OH-58 starter generator clamp must be safetied in an “X” type safety ending around the top of the nut.

(6) UH-1 forward engine V-band clamp must be safetied in an “X” type safety ending around the top of the nut.

d. When cotter pins are installed in castellated nuts, cotter pins will be tailed into the appropriate nut so as not to catch on skin or clothing.

4.2.15 - SLIPPAGE MARKS

a. Slippage marks that are required by the applicable aircraft maintenance manual will be applied prior to final release of the aircraft for routine flight.

b. All slippage marks that are applied will be done in a neat and orderly manner. Material that is used for slippage marks will be kept to a minimum amount but of sufficient amount to make the slippage mark functional.

c. When new slippage marks are applied, the previous slippage marks will be removed to prevent any confusion.

d. Material that is used for the slippage mark will be IAW the applicable maintenance manuals. If none is specified, then it may be a commercial product known under the name “TORQUE SEAL”.

e. Additional slippage marks should be cleared with the QC Section before being applied.

f. All round aircraft gages that have range markings on the glass must have a white slippage mark from the gage housing to the glass. Slippage marks will be placed on the nuts of the Flex Coupling Clamp and hanger bearings of the UH-1H/V aircraft assigned to this Facility. OH-58A/C aircraft must have slippage marks on the tail boom attachment nuts, tail rotor gearbox attachment nuts, main rotor blade grip nuts, main rotor pillow block bolts and nuts, dual slippage marks on each servo pilot valve.

g. The placement of the slippage mark will start on the bolt end and continue across the nut to the clamp body.

h. If there is evidence of slippage mark deterioration without evidence of bolt and or nut movement, then reapply slippage mark (No Red “X” required).

4.2.16 - PRE-PHASE PROCEDURES

a. Each Flight Line Maintenance Supervisor shall review deferred maintenance (2408-13-1 and 2408-14), open work orders, upcoming TBOs and parts requisitions.

(1) After the review he shall order any needed parts approximately 50 flight hours before the phase is due.

(2) He shall notify QC, Shops and the Phase Supervisor approximately when the aircraft will fly into phase.

(3) He will coordinate with an MTP for a pre-phase test flight.

b. QC shall assign a TI to the phase.

c. The assigned mechanic from the appropriate flight line crew shall visit his aircraft weekly at a minimum and work on any deficiencies present before phase. If his workload allows he may assist the phase crew in conducting selected phase inspection items.
d. For complete phase maintenance procedures go to the Phase (Dock) Maintenance section.

4.2.17 - USE OF LIFTING DEVICES

- If appropriate use of equipment requires proof of training (Fork Lift, Pettibone, Aircraft Tug, etc.) on their Military License, use of equipment will be restricted to those personnel that have such training annotated as per paragraph 4.1.11 or actually have the qualification annotated on their Military Driver License.
- Use of lifting equipment that does not require a Military License(Aircraft Jacks, Pallet Lifts etc.) will be restricted to personnel that have completed the training IAW paragraph 4.1.11.
- While using overhead Lifting devices all applicable safety clothing will be utilized in addition to OSHA approved hard hats/safety headgear.

4.2.18 - CONTRACT MAINTENANCE

- **All aircraft contract maintenance will be approved by the SAO and CA AVCRAD.**
- **Contractors will be managed by PC through the issuance of work orders.**
- **Technical Inspections will be conducted by LAAASF TI's**
- **Contractor's will be given a copy of the LAAASF Maintenance SOP and will be expected to adhere to it's policies and standards.**
- **The same maintenance safety standards that apply to LAAASF employees will also apply to contracted employees.**

4.3 - CORROSION PREVENTION AND CONTROL

4.3.1 - PURPOSE

To establish and maintain an effective Corrosion Prevention and Control (CPC) Program.

4.3.2 - RESPONSIBILITIES

a. The maintenance officer will integrate CPC program awareness into all levels of maintenance and will insure:

(1) CPC Program responsibilities are delegated to the CPC program monitor, the Quality Control Section, and Technical Inspectors.

(2) All personnel are aware of and comply with the Facility's CPC program.

(3) A training program is established to achieve Corrosion Prevention and Control inspection, detection and treatment proficiency at all maintenance levels.

(4) Approved recommendations for aviation CPC improvements will be implemented immediately.

(5) Aviation CPC requirements are continuously reviewed for effectiveness based on the operational environment of equipment under their control.

b. The designated CPC Program Monitor will, working with maintenance personnel, advise the maintenance officer on all CPC matters and findings. His duties are as follows:

(1) Observe inspection and maintenance operations and assure that the proper status symbols are annotated on the DA Form 2408-13-1 when corrosion is discovered. The status symbol to be utilized will depend on the degree of corrosion, location and limits allowable for the area per applicable TM. Corrective action (treatment/repair) to prevent further deterioration shall be taken as soon as possible. When a corrosion defect is not corrected within 28 days from the date discovered, the aircraft will be reported as not mission capable maintenance (NMCM) or not mission capable supply (NMCS), whichever applies, until corrective action has been applied. Aircraft will be scheduled for

CPC inspections on a 90-calendar day frequency or other calendar day interval, as stated in the applicable system Technical Manual. The DA Form 2408-18 for the aircraft will be used to record inspection frequency.

(2) Maintain current reference files for aviation CPC literature, to include TM 55-1500-343-23 and TM 55-1500-344-23, Corrosion Control for Army Aircraft.

(3) Monitor techniques and proficiency of maintenance personnel in handling inspections for corrosion and prompt corrective action.

(4) Aviation associated equipment (AGSE & ALSE) will be scheduled for CPC inspection on a frequency of 180 days per TM 1-1500-328-23 and as stated in the applicable TM for the item. More frequent inspections may be required, based on the operational environment of the equipment.

(5) Refers to TM 1-1500-343-23 and TM 55-1500-344-23 or the applicable aircraft technical manual for limits criteria, repair and/or treatment of all corrosion detected, no matter how minor.

4.3.3 - INSPECTION INTERVALS

a. All inspection intervals will be annotated on aircraft DA Form 2408-18 and accomplished IAW the appropriate technical manual(s).

b. Aircraft cleaning will be done every 30 days by washing aircraft IAW TM 1-1500-344-23.

c. Cleaning or wiping down of all exposed unpainted surfaces, such as main rotor flight controls, main rotor mast, etc. will be accomplished during PMD or PMS-1 inspections IAW the appropriate PMD/PMS checklist.

d. Every 90 days, the CPC inspection will be performed on the aircraft utilizing the appropriate PMD/PMS-1 checklist and will include the following items:

(1) Keep compartment drain holes open.

(2) Inspection, removal, and re-application of preservation compounds on a scheduled basis.

(3) Earliest detection and repair of damaged protective coatings.

e. Affected areas must be cleaned immediately if:

(1) Spilled electrolyte and corrosive deposits are found around battery terminals and battery areas.

(2) Aircraft are exposed to corrosive fire-extinguishing materials.

(3) Salt deposits, relief tube waste, or other contaminants are apparent or exposed to salt water spray.

(4) Fungus growth is apparent.

(5) Chemical, biological, or radiological containment is detected.

4.3.4 - AIRCRAFT WASHING PROCEDURES

a. Only authorized cleaning compounds, IAW applicable technical manual, are to be used on aircraft exterior surfaces.

b. The universal wash unit will be used for general purpose and turbine engine cleaning.

c. Where high outdoor temperatures are encountered (80’F and above), and where shade is not available, cleaning operations should be scheduled for early morning and late afternoon.

d. Aircraft and/or other equipment shall not be washed, cleaned, or inspected on an outdoor wash-rack when an electrical storm in the immediate area.

e. Aircraft shall be electrically grounded during all cleaning operations and when moored or parked.

f. Wear rubber gloves, flexible fitting goggles or face shield, protective wet weather clothing where necessary, and water resistant boots during cleaning operations using cleaning compounds.

g. Steam cleaners shall not be used for cleaning aircraft or components.

h. Do not wash or rinse aircraft with a solid stream of water. Use a soft, spray pattern to avoid damaging fragile sections or causing water intrusion.

i. Water must not be directed at pitot tubes, static ports, vents, etc. After wash is completed, the drain caps on the pitot/static system will be removed for inspection for moisture.

j. Do not use cleaning compounds at higher concentrations that those recommended.
k. Do not allow cleaning solutions to dry on aircraft surfaces. This could cause streaking and can damage to aircraft finishes and components.
l. Re-lubricate all fittings and other lube points in areas to which cleaning compounds have been applied.
m. Rinse aircraft surfaces where necessary to reduce skin temperature.
n. To prevent streaking, start at the lower surfaces, working upward and out.
o. Ensure that all areas accumulating water have been drained.
p. Refer to appropriate TM for after-wash inspection requirements.

4.3.4.1 - AIRCRAFT FLOWN IN DIRTY ENVIRONMENT (DUST, SALT WATER, ETC.)

Determination to wash aircraft after they have flown in a dirty environment will be made by the Mechanic Foreman. All aircraft that are flown in a questionable environment will be reported to the Maintenance Officer during the PC meeting and He/She will determine the extent of washing required. When it is determined that and engine and/or aircraft rinsing/washing is required it will be conducted IAW the appropriate maintenance TM and this SOP (QC-CPC).

4.3.5 - REMOVAL, STORAGE & SHIPMENT OF PARTS

Short term storage (45 days or less), long term storage (exceeding 45 days) or hipment of serviceable and reparable parts: Follow applicable technical manual.

4.4 - ALLIED SHOPS

4.4.1 - PURPOSE

To prescribe policies and procedures to be used by the LAAASF Avionics, Armament, Pneudraulics, Engine, Prop and Rotor, Sheet Metal, Electrical, and AGSE personnel not covered in applicable technical manuals or previously in this SOP.

4.4.2 - REFERENCES

DA Pam 738-751
DA Pam 710-2-2

4.4.3 - GENERAL

a. Organization: The Allied Shop division is managed by the Maintenance Officer and is under the direct supervision of the Aircraft Systems Supervisor and Electronic Mechanic Supervisor. It is comprised of eight separate sections:
(1) Avionics shop
(2) Armament Shop
(3) Pneudraulics Shop
(4) Engine Shop
(5) Prop and Rotor Shop
(6) Sheet Metal Shop
(7) Electrical Shop
(8) AGSE
b. Duties and responsibilities of Personnel:
(1) WS-10 Aircraft Systems Supervisor (ASS) See Personnel Duties and Responsibilities.
(2) WS-10 Electronics Mechanic Supervisor (EMS): See Personnel Duties and Responsibilities.
(3) WG-11/10/8 Shop Personnel: Responsible for all duties and work assignments issued by their respective Supervisor. Upon receipt of maintenance work request from the ASS, personnel will:

(a) Note the priority of the work request and work the highest priority first, unless otherwise instructed by the Allied Shops Supervisor.
(b) Perform all repairs IAW applicable publications located in the specific Shops library.
(c) Not allow unauthorized personnel to work on components or aircraft utilizing shop tools and test equipment.
(d) Ensure that all-applicable forms and records are completed IAW DA Pam 738-751.
(e) Ensure that all publications in the Shops library are posted with the most current changes.
(f) Ensure that all tools and test equipment requiring calibration have a current DA Label 80 (Calibration Tag) and DA Form 2409 if applicable.
(g) Keep work area and equipment clean on a daily basis.
(h) Maintain bench stock in accordance with DA Pam 710-2-1.

4.4.4 - EXTERNAL WORK REQUESTS

All work requested from other facilities shall be accomplished IAW that facility's applicable SOP.

4.4.5 - INTERNAL WORK REQUESTS

The Aircraft Systems Supervisor will issue priorities after coordination with the Maintenance and Production Control Offices.

4.4.6 - AVIONICS/ELECTRICAL/BATTERY SHOPS

a. General: The EMS will assign each technician work. All maintenance requests will be from Production Control on the ULLS-A generated form, prior to work being performed. The EMS or Maintenance Officer will approve exceptions to this. All work priorities will be assigned by the Electronics Supervisor, if no priority is given, the oldest work order will be done first. After personnel have completed all necessary maintenance, completed work order will be routed through EMS to be returned to Production Control for close out in ULLS-A.
b. The EMS, prior to his absence, must designate a temporary replacement to assume the duties.
c. Refer to the Table of Contents for a more detailed SOP for Battery Shop operations.
d. Refer to the Table of Contents for a more detailed SOP for Avionics/Electrical shop operations.

4.4.7 - AIRCRAFT ARMAMENT/FIRE CONTROL SYSTEMS SHOPS

a. Purpose: To outline procedures and responsibilities for the accomplishment of maintenance services for the armament subsystems supported by the AASF Maintenance Shop.
b. Scope: This SOP applies to all operations conducted by the Aircraft Armament Shop.
c. General: This SOP may not cover all situations that could arise; therefore, the sound judgment of the ASS or the Electronic Mechanics (Armament) will be relied upon to resolve conflicts between this SOP and the accomplishment of the mission. It will be the first priority of the Aircraft Armament Shop to assure the maximum readiness of the armament subsystems we support.
d. Safety: All maintenance or any shop operation must be conducted in a manner that will prevent accident or injury to any personnel or equipment. Complete procedures are outlined in Chapter 5 (Safety) of the AASF SOP.
e. Calibration: The AASF TMDE Coordinator will control all calibrated equipment used by the Aircraft Armament Shop.
f. Repair Procedures: All work requests will be submitted IAW the procedures outlined in this SOP.
g. Aircraft preparation: When an aircraft is received for maintenance, the Electronic Mechanic (Armament) shall:
(1) Ground the aircraft.
(2) Disconnect the battery
(3) Put a drip pan or bucket under the aircraft.
(4) Disengage all circuit breakers and insure all switches are in the off or disengaged position.

(5) Ensure that the safety pins are installed on the wing stores ejector racks. If the aircraft is in for extensive maintenance or remains in the hangar overnight refer to paragraph 3-9 c.
(6) Remove all armament panels relevant to the necessary or anticipated repairs.
(7) Set up the Gun barrier to prevent accidentally striking anyone when the turret is activated.
(8) In case of modernized aircraft ensure that the plug to the laser electronic unit disconnected and that the laser select switches are off.
h. After initial set up has been completed the Electronic Mechanic shall:
(1) Review the aircraft records for any deficiencies that are recorded.
(2) Inspect aircraft for damaged or missing parts that would limit the operation of any subsystems.
(3) Perform a functional check or built-in tests of all subsystems IAW the appropriate manuals.
(4) Record any deficiencies found during the functional checks on 2408-13-1 or if the aircraft is in phase inspection on DA Form 4676-R.
i. The Electronic Mechanic shall repair the Armament subsystems in the following order until all subsystems are repaired or until no more work can be performed due to parts requirements:
Reserved for future aircraft fielding
j. As each subsystem is repaired or serviced the ASS or QC Technical Inspector (TI) will conduct a technical inspection.
k. After all repairs are completed, but before any panels are re-installed, the ASS or Quality Control (QC) TI will inspect all armament components for completeness and proper installation.
l. Any aircraft problems not related to armament that are found shall be reported to the ASS for disposition.
m. After the final technical inspection has been completed the panels will be re-installed and verified by the QC TI. The work order will be completed and returned to the ASS.

4.4.8 - PNEUDRAULICS/ENGINE/PROP & ROTOR/SHEET METAL SHOPS

Upon the receipt of a maintenance work request from the ASS, personnel will:
a. Note the priority of the work request and accomplish the requests in descending order unless otherwise instructed by the ASS.
b. Perform all repairs IAW applicable publications located in the specific Shops Library.
c. Do not allow unauthorized personnel to work on components or aircraft utilizing shop tools and test equipment.
d. Ensure that all-applicable forms and records are completed IAW DA Pam 738-751.
e. Ensure that all publications in the Shops library are posted with the most current changes.
f. Ensure that all tools and test equipment requiring calibration have a current DA Label 80 calibration tag and DA 2409 if applicable.
g. Keep work area and equipment clean on a daily basis.
h. Bench Stock: All items in bench stock will have a DA Form 1300-4 bin tag card made out in accordance with DA Pam 710-2-2 and Chapter 6 (Tech Supply) of the AASF SOP. When an item reaches the reorder point, the technician will write his name in the unused date block on the left side of the bin tag and the amount requested on the right side of the column. The bin tag will be submitted to the Allied Shops Supervisor for ordering.

4.4.9 - GOVERNMENT SERVICE AUTOS (GSA) AND AVIATION GROUND SUPPORT EQUIPMENT (GSE)

a. Purpose: To provide for operations, dispatch, and maintenance of vehicle and aviation ground support equipment assigned to the LAAASF.
b. US Government Motor Vehicle Operator's Permit (DA Form 5984E):

(1) All personnel assigned to this facility that are required to operate motor vehicles and/or auxiliary ground support equipment will have a valid government operator's permit in their possession.

(2) Issue of government operators permit, driver testing and maintenance of forms and records will be IAW current regulations and under the direction of the technician's military unit.

(3) Possess a current driver's license for any of the 50 United States and Possessions.

c. Commercial Vehicles (GSA):

(1) Use of commercial vehicles assigned to the facility will be controlled by the use of DA Form 2401 (Organizational Control Record of Equipment) maintained in the Ground Support Office. Personnel having a requirement for official travel will request a vehicle from the ASS. The ASS will dispatch the vehicle. Personnel will annotate the DA Form 2401 and receive the logbook and key. Upon completion of the travel, the driver will complete the logbook and service the vehicle with fuel/oil if needed. The driver will then return the logbook and key to the Ground Support Office.

(2) Maintenance support and services will be in accordance with CA ARNGR 56-1.

d. Ground Support Equipment (GSE):

(1) Equipment restricted for flight line use does not have to be dispatched.

(2) The first operator of the day will perform "before operation checks."

(3) The support equipment systems mechanic will perform the scheduled lubes and maintenance services. Maintenance support beyond the shop capability will be requested from OMS #8.

(4) Corrosion Prevention and Control (CPC) Program for ground support equipment is as follows. Equipment will be scheduled for CPC inspection on a frequency of 180 days per TM 1-1500-328-23 and as stated in the applicable TM for the item. More frequent inspections may be required based on the operational environment of the equipment. Maintenance will be recorded on the DA Form 2404 and DD Form 314 for that item. If corrosion is found it will be annotated on the DA Form 2404 and corrected as soon as possible.

4.5 - AVIONICS & ELECTRICAL SHOP

4.5.1 - PURPOSE

This Annex provides a standardized set of instructions for the daily operation of the Avionics Section. Maintain aircraft electronic components by the following means: repair and return to user, evacuation to higher level maintenance for repair and Return to user, Repairable Maintenance Item (RMI) exchange, and Maintenance Exchange Item (MEI) transactions.

4.5.2 - APPLICABILITY

The procedures described in this portion of the SOP apply to all personnel assigned or attached to the Avionics Section.

4.5.3 - DUTIES AND RESPONSIBILITIES

a. Electronics Mechanic Supervisor, WS-10 provides guidance and establishes policy for overall operation within the guidelines of the Facility Maintenance Officer.

(1) Develops section personnel to improve technical proficiency and maintenance efficiency.

(2) Reviews all written material originating within the section.

(3) Is the hand receipt holder for all TDA and property assigned to the section. Insures property accountability is maintained at all times.

(4) Monitors shop operations to insure all personnel comply with safety practices.

(5) Maintains personnel morale, health, and welfare.

(6) Supervises the operator and organizational maintenance on section equipment.

(7) Performs other duties as required.

b. Senior WG-11 Electronics Technician: The section senior WG-11 technician is responsible to the WS-10 Supervisor and will assume his position when required. The senior WG-11 technician's duties include but are not limited to the following:

(1) Supervises the operation of production control to insure a smooth flow of work.

(2) Provides section platoon personnel with technical assistance and instruction.

(3) Coordinates with the Facility production control office on work scheduling and priority.

(4) Supervises the operation of shop supply to ensure adherence to proper procedures and availability of parts.

(5) Advises the WS-10 Supervisor on technical matters pertaining to avionics and shop operations.

(6) Provides technical assistance to supported units as required.

(7) Monitors shop operations to insure all personnel comply with shop safety procedures.

c. Technical Inspector: The Avionics Technical Inspector is appointed on orders published by the Quality Assurance Section and signed by the Commander. The platoon Technical Inspector is responsible for the quality assurance inspection of all work completed by the avionics platoon. In addition, his duties include but are not limited to the following:

(1) Insure all paperwork related to the work being inspected is complete and accurate.

(2) Verify test equipment used for final inspection is within calibration and operational.

(3) Provide technical assistance to the section personnel.

(4) Insure test, measurements and diagnostic equipment (TMDE) operator and organizational maintenance is performed according to published standards.

(5) Monitor shop operations to ensure all personnel comply with shop safety procedures.

d. Production Control: The WS-10 Supervisor is responsible to the Facility Maintenance Officer. He will perform the following production control duties:

(1) Attend all production control meetings and report work progress.

(2) Determine the order of work flow using work order priorities and personnel availability. His decisions will be guided by the Facility Maintenance Officer.

(3) Supervise the section to ensure work orders and associated forms are completed and maintained in accordance with SOP and applicable ARs and TMs.

(4) Review deadline job orders weekly to verify parts document numbers are valid.

(5) Determine what equipment or aircraft will be evacuated to the next higher maintenance level.

(6) Recommend suitable candidates for the Maintenance Exchange Item (MEI) program, the Repairable Maintenance Item (RMI) program.

4.5.4 - FORMS AND RECORDS

Production control forms and records will be maintained in accordance with current DA Pam 738-750 and 738-751, and Army Regulations 750-1 and 735-11. In case of discrepancies between this SOP and the applicable publication, the most current Army Publication will take precedence.

4.5.5 - AUTOMATED RECORDS

Automated maintenance procedures will be prescribed by the ULLS-A portion of this SOP. In general, these procedures consist of a computer generated listing of open work orders which is updated daily and a computer generated listing of 03 NMCS supply requests which is updated as required. The main hangar production control section (not avionics) is responsible for making the daily computer input for these listings.

4.5.6 - WORK ORDER ACCEPTANCE

The following procedures will be followed for all work orders received by the Avionics section:

a. The main PC clerk will initiate the ULLS A Maintenance request (ULLSA Form) .

b. The Avionics Supervisor will pickup the work orders and assign the work by priority to the avionics section personnel.
c. The technician upon completing the work will return the completed ULLSA Form to the completed section of the file.

4.5.7 - WORK ORDER RETURNS

The following procedures will be followed for all work orders returned to PC from the various repair sections by the PC clerk:
a. The PC clerk will inspect the Maintenance request ULLS A Form for accuracy, completeness, and legibility.
b. The PC clerk will then complete the ULLS A closeout of the work order and annotate it on the DA Form 2405.

4.5.8 - WORK ORDER DEADLINES

If the repairman determines that a piece of equipment requires a part of parts that are not in stock in shop supply the equipment must be placed in awaiting parts (AWP) status and the parts ordered. The following procedures will be followed for all work orders placed in deadline status.
a. The repairman will order the part using the ULLS A laptop for that aircraft..
b. The work order will be maintained in the awaiting parts file, until part is received.
c. The PC clerk will return the Maintenance Request and place it in the deadline section of the tub file.
d. Upon receipt of the parts, the technician will install the part and closeout the work order.

4.5.9 - WORK ORDER EVACUATION

Work determined to be Not Repairable This Station (NRTS) will be evacuated to the next higher echelon of maintenance. The following procedures will be followed for all work orders evacuated to higher echelons of maintenance:
a. An evacuation Maintenance Request (DA FORM 2407/5504) will be prepared by the PC clerk.
b. The equipment and the Maintenance Request will be physically transported to the supported maintenance activity. The personnel performing the transaction will initial the Maintenance Request in block 23 (submitted by) and ensure they receive a number one (green) copy initialed in block 24 (received by) and annotated with a support maintenance work order number for each piece of equipment they submit.
c. The PC clerk will then record the Maintenance Request on DA Form 2405. The green copy of the maintenance request will be placed in the tub file.

4.5.10 - SHOP SUPPLIES

a. General: Authorization to order supplies other than shop stock replenishment, bench stock replenishment, and non-stocked parts for maintenance request may be given only by the WS-10 Supervisor, Maintenance Officer or Production Control Officer.
b. Forms and Records: Shop supply and records will be maintained in accordance with DA Pam 710-2-2, AR 710-2 and the Direct Support Unit Standard Supply System (DS4). In case of discrepancies between this SOP and the applicable Army Publication, the most current Army publication will take precedence.
c. Parts Requests: The following is intended as a general guide to the procedures used for requesting parts.
(1) The initial request for a specific repair part is generated by the section repair person on a locally produced form titled "Avionics Part Request" (*To be published). This form contains all the data required by the ship supply clerk to start the supply action.

(2) The supply clerk will verify the information on the Avionics Parts Request using the current Army Master Data File (AMDF). If the part is coded recoverable by the AMDF (RC codes other than o, z, or blank) the PC clerk will also obtain the unserviceable part from the repair person.

(3) The supply clerk will check the automated shop stock listing and/or ULLS A to determine if the required part is stocked and on hand. If it is, the clerk will remove it from its location and issue it to the repair person. The clerk will post the issue to the ULLS A and the automated shop stock listing.

(4) If the part is not stocked, the clerk will complete the Avionics Part Request and the equipment will be deadlined. The PC supply clerk will order the part using the priority of the maintenance request.

(5) Parts will be ordered using ULLS A parts request procedures.

4.5.11 - PARTS RECEIPT

The following is intended as a general guide to the procedures used for receiving parts.

a. The supply clerk will receive parts and place them on the shelf for the avionics section or the shelf for the aircraft the parts were ordered against. The supply clerk will sign for parts on a DA Form 1348-1.

b. Received parts will be processed the same day.

4.5.12 - PARTS TURN-IN

The following is intended as a general guide to the procedures used for turning in parts.

a. The current DA Pam 710-2-2 should be referred to for specific details concerning the completion of forms.

b. If the unserviceable part is determined to be recoverable, it must be tagged in accordance with the following guidelines:

(1) A part with an RC code of "H" will have two unserviceable (condemned) Tag Material (DD FORM 1577) attached.

(2) A part with an RC code of "Z" will have one unserviceable (condemned) Tag Material (DD FORM 1577-2) attached.

(3) Parts with RC codes of D, L, F, and A will have two unserviceable (repairable) Tag-material (DD FORM 1577-2) attached.

4.5.13 - BENCH STOCK

Bench stock will be maintained per DA Pam 710-2-2. It will be maintained in the repair section area. Bench stock will be replenished as used.

4.5.14 - EQUIPMENT REPAIR PROCEDURES

The section chief is responsible for ensuring his personnel are using the proper repair procedures at all times. All shops with the exception of the Battery/Electric/Line section will use the following procedures:

a. The repair person will take the equipment and the job order to his work area. Repairs will be made IAW the applicable TMs. If the repair person can not determine the problem area in a reasonable period of time he will request assistance from the TI or WS-10 Supervisor. If this combination of expertise cannot isolate the problem, the equipment will be declared Not Repairable This Station (NRTS) and evacuated to the next higher level of maintenance.

b. If the repair person determines the equipment problem to be coded for a higher level of Maintenance than AVIM, he will immediately notify his section chief. The equipment will be declared NRTS and evacuated to the next higher level of maintenance.

c. If the repair person determines that one or more parts are required, he will complete an Avionics Part Request and give it to the shop supply clerk. If the part required is recoverable the repair person

will complete the appropriate DD FORM 1577 series tag. No recoverable parts will be issued without a turn-in.
d. If the part required is not in stock, the repairman will submit a parts request to supply.
e. When repairs are completed the repairman will perform a final check of the equipment. He will then notify the TI that the equipment is ready for inspection.
f. The TI will perform a final quality assurance inspection of the equipment. He will complete a quality assurance checklist for each piece of equipment inspected. The Maintenance Request will be initialed by the TI in block 37A (work inspected by) and the checklist will be attached.
g. If the equipment successfully meets the quality assurance requirements the repair person will return it to the PC clerk along with the completed Maintenance Request.

4.5.15 - AIRCRAFT SURVIVABILITY EQUIPMENT

a. Aircraft Survivability Equipment (ASE) support functions will be conducted with physical security in mined. Guidelines of AR 380-5 apply.
b. The ASE/NVG shop area will be the only facility authorized for storage of ASE equipment. At no time will any such equipment be left unattended or unsecured. Only authorized and properly cleared personnel will be permitted access to this shop and all work will be supervised.

Note

Customers will not be permitted access to the shop

c. Customers will process their work requests through main PC. Upon acceptance, the PC clerk will notify the ASE/NVG personnel to pick up the equipment and transport it to the shop.

4.6 - NIGHT VISION DEVICES

4.6.1 - PURPOSE:

To outline the policies and procedures used by Night Vision Devices personnel.

4.6.2 - REFERENCES:

DA Pam 738-751	NVD MSG 032330Z JAN 91 (CDRUSAAVNC)
TB 1-1500-348-30	NVD MSG 052130Z NOV 92 (CDRATCOM)
TB 1-1500-350-30	NVD MSG 191537Z FEB97 CDRUSAAVNC)
TM 1-8415-216-12&P	NVD MSG 101430Z APR 97 (CDRATCOM)
TM 9-1270-233-23&P	FAA MSG 3946E
TM 10-8415-206-12&P	Updated Guidance on NVG Maint (Forms & Records)
TM 11-5855-263-23&P	
TM 11-5855-264-14	
TM 11-5855-300-23&P	

4.6.3 - GENERAL:

a. Organization: The Night Vision Devices Shop is under direct supervision of the WS-10 Electronics Supervisor.
b. Duties and Responsibilities: Completion of AVIM maintenance on Night Vision Devices in a timely manner, unless priority of aircraft, Electronics Supervisor directs maintenance.

4.6.4 - WORK REQUESTS:

All work performed by NVD personnel will be annotated on DA form 2407. And, if needed, on DA Form 2408-5, DA Form 2408-5-1 (Component) and DA Form 2408-15 (To be used as NVD record)

4.6.5 - MAINTENANCE LEVELS:

a. AVUM: Encompasses initiating paperwork for initial inspections and 3-month inspections thereafter.
b. AVIM:
(1) Encompasses initial inspection, paperwork, and 6-month inspections thereafter.
(2) Updating of NVD Equipment according to NVD Branch Ft. Rucker Ala.

4.6.6 - PROGRAM COMPLIANCE:

a. Units turn-in NVDs (Not more than 1/3 of unit strength) to shop personnel. NVDs are brought to the NVD shop accompanied by a 2407 Maintenance Work Request and assigned Logbooks.
b. Shop Personnel inspect each travel case for:
(1) Correct serial # from case to device
(2)Items to be inspected are in case
(3)Paperwork is filled out correctly
c. NVDs are logged into DA form 2405 by:
(1)Job order Number
(2) Nomenclature
(3)Owning Unit
(4) Serial Number
(5) Description of Work
(6) Date Received
d. DA 2407 is signed by senior AVIM Maintainer, giving top copy to Unit for tracking purposes.
e. Perform procedures on NVDs to include:
(1) Inspect/repair Battery Pack
(2) Inspect/repair Night Vision Device
(3) Inspect/repair Visor Mount (if applicable)
f. If NVDs fail any portion of inspection according to procedures listed above:
(1) Part is ordered though supply using Unit DODAC.
(2) NVD will be red tagged and secured until part is acquired and installed.
g. After NVDs pass inspection they will be purged using oil free Nitrogen.
h. List all procedures (and parts if used) on 2407 using codes IAW 738-751.
i. Make entries into DA Form 2408-30, 2408-5 (If applicable), 2408-5-1 (If applicable) and 2408-15 (If applicable)
j. Senior NVD Maintainer will finalize 2407 by filling in blocks:
(1) 37a “Inspected by”
(2) 37b “Status”
(3) 37c “Date”
(4) 37d “Time”
k. Units will be notified when NVD inspections are completed and ready for pick-up.
l. Units will inspect Travel Case for:
(1) Correct serial # from device to case.
(2) Items to be inspected are in case.
(3) Paperwork is filled out correctly.
m. Units will sign:
(1) 38a “Picked up by”
(2) 38b “Status”
(3) 38c “Date”
(4) 38d “Time”

n. Senior Maintainer will fill out DA form 2405:
(1) Date of repair started
(2) Date of repair finished
(3) Man-hours
(4) Pick-up date
o. Electronics Supervisor shall be notified if:
(1) Undue delay of units in picking up NVDs
(2) Any problems that may hinder proper function of the NVD Shop.

4.7 - Battery Shop Operations

4.7.1 - Purpose

To outline standard operational procedures to be used by the Battery Shop Personnel.

4.7.2 - References

DA Pam 738-751
FM 3-04.500 (FM 1-500)
DA PAM 710-2-1

4.7.3 - General

a. Organization: The Battery Shop is under supervision of the WS-10 Electronics Supervisor.
b. Duties and responsibilities of personnel:
WG-8/10/11 Shop Personnel are responsible for completing all duties and work assignments assigned by the Electronics Shop Supervisor or an appointed supervisor in his absence.

4.7.4 - Work Requests

All work performed by the Battery Shop will be annotated on ULLS-A Maintenance Request. If no ULLS-A Maintenance Request is available, high priority work will be completed with Electronics Supervisors approval. If no priority is given, work orders will be completed, oldest work order first.

4.7.5 - Scope of Maintenance

a. The Battery Shop is responsible for completing AVUM and AVIM levels of maintenance.
b. AVUM Level: encompasses all flight line aircraft maintenance and scheduled phase maintenance inspections.
c. AVIM Level: encompasses certain aspects of phase maintenance and bench troubleshooting and repairs on all unserviceable equipment.

4.7.6 - Operational Readiness Float

Serviceable equipment will be maintained as ORF in the Avionics/Electrical/Battery Shop. This will be done IAW, DA Pam 710-2-1. Equipment will be used to replace unserviceable equipment in assigned facility aircraft.

4.7.7 - Unserviceable Equipment

All equipment found to be unserviceable will be tagged and submitted to the Battery Section for disposition.

4.7.8 - Bench Stock

All bench stock will be maintained IAW DA Pam 710-2-1.

4.7.9 - Receiving Ni-Cad Batteries

a. Battery is brought to shop by Aircraft Mechanic
b. Battery shop personnel visually inspect battery for overall condition.

c. Battery must be complete, free of damage, clean, and have a historical record attached. If a NI-CAD battery shows signs of neglect, abuse, or missing parts, it will be accepted only upon presentation of authenticated accountability documentation: Statement of charges, or damages which indicate negligence is not involved will be accepted as sufficient justification. Proper procedures are specified in para. 3-4 of AR 735-11. This documentation/ certification will be accomplished only at command level.
d. ULLS-A Maintenance Request, DA Form 2407, DA Form 5504, and unserviceable tag DD Form 1577-2 are checked for completeness and accuracy by Battery Shop personnel.
e. DA Form 2407 or DA Form 5504 is initiated.
f. Aircraft Mechanic returns forms from Production Control to Battery Shop where battery is received

4.7.10 - SERVICING OF BATTERY

a. Follow all warning and safety precautions, Wear appropriate safety equipment, and all chemical (HAZMAT) spills will be handled with caution and in accordance with applicable regulations.

Note

If item is not as required by TM correct as necessary and move on to the next step, no battery links are to be disconnected without completely discharging the battery

b. Remove battery case cover.
c. inspect battery as required.
d. Clean off excess dirt and corrosion.
e. Inspect and test all filler caps, vent plugs for security, damage and condition of O-rings.
f. Check for missing or improperly installed links, hardware and for proper tightness of connections of terminal links, also for indications of electrolyte leakage and for improperly installed cells. Terminals are tightened to specified torque IAW appropriate TM.
g. Battery is completely discharged overnight using Battery Discharge Fixture.
h. Battery is connected to Analyzer/Charger for 120 day/100 hour capacity check. The 120 day/100 hour capacity check is a three step operation:
(1) Battery is brought to full charge
(2) Battery is discharged.
(3) Battery is charged to full capacity
i. Any malfunction within the battery will cause the Analyzer to reject (fail) the battery.
j. The electrolyte level is checked at full charge. The battery must sit for one half hour, but not more than two hours before adjusting electrolyte level using only distilled water (water reagent), to not more than one quarter (1/4) inch above the top of the plates.
k. Rejected batteries are recycled (Up to three times) and all cells tested. Those cells that are found to be bad or weak are to be replaced, using only cells from the same manufacturer, then battery cells brought to an even balance.
l. If condition stated in step I exists, correct and restart the procedure with step F, part II.
m. Battery is then checked for a voltage leak. If a voltage leak exists, determine the cause and correct it. Common causes include: dirt, moisture, KOH contamination or a bad cell. Upon correction start again with step F part II.
n. Some details may vary with different batteries or Charger/Analyzers, if so consult with TM.

4.7.11 - HISTORICAL RECORDS AND JOB ORDER COMPLETENESS

a. Serviceable tag DD 1574 is completed to include job order number and unit in the remarks section. This tag is then attached to the battery.
b. Shop historical Record of Battery Shop FO form 4-786 is completed, FF form 4102 is completed and attached to battery along with shop service/inspection sticker and shop logbook is updated.

c. DA 2407 or DA 5504 is then completed and turned in to Production Control Section.
d. The unit is then notified by Production Control Section that the Battery is ready to be issued.

4.7.12 - NOTIFICATION REQUIREMENTS

a. Any undue delay by requesting unit in picking up batteries.
b. Any other problems that may hinder the proper function of the NI- CAD Battery Shop.

4.8 - PHYSICAL SECURITY

4.8.1 - GENERAL

Security of government and private property is a command and individual responsibility. Application of proper measures for the safeguarding and security of government and private property can reduce the incidence of loss or theft of such property and the number of criminal incidents and accidents involving their use.

4.8.2 - PURPOSE

To establish standard security policies and procedures within the Los Alamitos Army Aviation Support Facility for the purpose of preventing the unauthorized removal or loss of government and personal property.

4.8.3 - SCOPE

This Standing Operating Procedure is applicable to all employees and National Guard Personnel assigned and attached to this facility for aviation support.

4.8.4 - RESPONSIBILITIES

a. Facility Commander: The commander is ultimately responsible for physical security within the facility. He designates personnel authorized access to specific areas at specific times within the LAAASF, insures compliance with the SOP, and appoints personnel to assist in physical security duties.
b. Physical Security Officer: Implements this SOP and all its provisions and insure that a continuous key control policy is in effect throughout the LAAASF.
c. Key Control Custodian: Insures proper key control procedures are followed, maintains proper records (Key Control Register and Key and Lock Inventory), and Issues/receives keys to/from employees.
d. Assistant Key Control Custodian: Assists key control officer with key control in the hangar and maintenance areas.

4.8.5 - BREAK-INS

All attempted or successful break-ins with or without the loss of property, or any mysterious disappearance of property or sensitive equipment will be reported immediately to Post Security and the Facility Commander (AR 190-11).

4.8.6 - DOORS AND GATES

All external doors and gates, or any internal doors and storage areas will be kept locked except those that are necessary for the movement of personnel and equipment during normal hours of operation (AR 190-11).

4.8.7 - EXTERNAL LIGHTS

Exterior fire lights and all security lights will be left on during the periods of darkness and turned off during daylight hours.

4.8.8 - DAILY INSPECTIONS

a. On days when an night duty mechanic is not scheduled the daily security inspections will be conducted as follows:

(1) Maintenance Hangar #1: The Aircraft Maintenance Foreman will conduct a complete inspection of doors, windows, lights, utilities and storage areas. In the event that he is on leave status the individual designated to perform his duties will conduct the inspection. Annex A-15 (Hangar Security) will be filled out and returned to the Maintenance Officer the next business day.

(2) Maintenance Hangar #2: The Aircraft Maintenance Foreman will conduct a complete inspection of doors, windows, lights, utilities and storage areas. In the event that he is on leave status the individual designated to perform his duties will conduct the inspection. The Annex A-15 (Cont) will be filled out and returned to the Maintenance Officer the next business day.

(3) Aircraft: The Aircraft Maintenance Foreman will designate a mechanic to inspect the aircraft parked on the flight line one hour prior to the close of business. Aircraft will be inspected for proper tie down and security. Annex A-14 (Flight Line Security) will be filled out and returned to the Maintenance Officer the next business day.

b. On days when a night duty mechanic is scheduled the daily security inspections will be conducted as follows:

(1) Maintenance Hangar #1 & 2: the night duty mechanic will conduct a complete inspection of doors, windows, lights, utilities, and storage areas. The Annex A-15 (Hangar Security) will be completed and returned to the Maintenance Officer the next business day.

(2) Aircraft: the night duty mechanic for security and proper aircraft mooring will inspect the flight line aircraft. The Annex A-14 (Flight Line Security) will be completed and turned in to the Maintenance Officer the next business day.

c. Holidays and Non-Work Days: The daily inspection is not required during legal holidays or other non-work days. Post Security will maintain maximum surveillance of the aircraft and facilities during unoccupied periods.

4.8.9 - CLASSIFIED DOCUMENTS

All classified documents will be safeguarded IAW AR 380-5.

a. Secret and Confidential Documents: Will not be stored in this building due to security reasons. These documents may be stored at Division Headquarters, Bldg #3.

b. For Official Use Only Documents: May be stored in a locked container (i.e. file cabinet or desk) in a locked office with limited access. Cover sheets will be placed on these documents IAW AR 380-5.

4.8.10 - SENSITIVE ITEMS

a. Night Vision Goggles, survival radios, Emergency Location Transmitters (ELTs), electronic parts and test equipment, tool sets, tools, watches, compasses, gun sights, and other high dollar cost items will be stored using the double-lock method (locked metal containers in a locked office) when not in use.

b. Tools, when required to be in a vehicle, will be locked in the tool compartment.

c. Other property, such as television sets, multi-media equipment, radios, etc., will be stored in secure areas when not in actual use or supervised by a responsible individual. When the room the equipment is in is left unattended, it will be locked.

d. ULLS-A Laptop computer cabinets will be secured at the end of each business day.

4.9 - SEVERE WEATHER PLAN (MOORING AND TIE DOWN)

4.9.1 - GENERAL

In the event of severe storms, hurricanes or high winds are forecast, the individual receiving such notification will be responsible for notifying the personnel listed in paragraph 7-2 below. Severe weather forecasts come over the FAA fast line or by telephone from the Airfield Operations.

4.9.2 - PERSONNEL TO BE NOTIFIED

a. During scheduled drills:
   (1) Flight Operations Officers.
   (2) Flight Operations Sergeants.
   (3) Unit Commanders.
   (4) Maintenance Supervisors.
b. During normal working hours:
   (1) Facility Commander.
   (2) Aircraft Maintenance Officer.
   (3) Flight Instructors.
   (4) Flight Operations Specialist.

4.9.3 - UPON NOTIFICATION

- The following procedures will be practiced regardless of forecasted winds:
  - Tie down aircraft in accordance with appropriate procedures described in TM 1-1500-250-23.
  - Mooring of the aircraft to include tying down of the rotor blades shall be conducted after each flight.
  - The horizontal stabilator of the UH-60 aircraft will be set in the neutral position (zero to + degrees) when mooring.
- When winds are forecasted to be 40 to 50 knots: Aircraft on the flight line will be secured with mooring chains that are provided in each parking area.
- When winds are forecasted to be higher than 50 knots the procedure and priority for securing the aircraft will be as follows:
  - Hangar the aircraft in the following priority: OH-58, UH-60 and UH-1. If space is limited it may be necessary to fold the four bladed aircraft.
  - Evacuate aircraft to a safe haven if possible. Available flight crews present will determine aircraft type priority (what aircraft are the pilots that are present qualified in). Place of destination will be determined by the senior officer present and should be a location where weather is forecasted to be less severe than the aircrafts present location.

NOTE: ASE security will be in accordance with the COMSEC/ASE SOP

4.9.4 - AIRCRAFT EVACUATION PLAN

Due to the number of aircraft and limited hangar space available some aircraft may need to be evacuated. The Facility Commander will determine the priority of evacuation.

4.10 - Fire & Earthquake Plan

4.10.1 - Report of Fires

Any person discovering a fire within the hanger or any building under the jurisdiction of the maintenance shop will sound the alarm immediately so that personnel may begin evacuation. He will then call the fire department (PHONE 61111) and state the following:

a. Location of fire.
b. Nature of fire (electrical, aircraft, paint, etc.)
c. Name and grade of person reporting the fire.
d. Do not hang up until you obtain permission to do so.

4.10.2 - Method of Alarm

a. Fire alarm bell (located throughout Hangars #1 and #2).
b. Vocal communication.

4.10.3 - Fire Fighting

a. Attempt to extinguish fire if it can be done safely.
b. All personnel will evacuate the building and personnel in the rooms and allied shops will evacuate rooms closing windows and doors; turn off all fans, heater and air conditioners.

WARNING
DO NOT LOCK DOORS

4.10.4 - Evacuation

a. Personnel will assemble to the south of Hangar #1 in front of Base Operations. Shop supervisors will account for all employees with the current attendance roster.
b. An Aircraft Shop Supervisor will insure he gets the attention of the Fire Fighters and direct them to the appropriate area.

4.10.5 - Fire Prevention Plan

See chapter 5 (Safety) of this SOP.

4.11 - Bomb Threats

4.11.1 - Actions Upon Receiving a Bomb Threat

a. Evacuation: All personnel will be directed to depart to an open area a minimum distance of 300 feet from the threatened facility where supervisors will account for all personnel.
b. Notification: Maintenance personnel will be notified by the intercom system and told where to assemble. Post security will then be notified (6-2100) as well as higher headquarters (DSN 466-3440 or COMM 916 854-3440).
c. Actions: Turn off gas to threatened facility and open windows and doors to vent potential blast.
d. Person receiving threat will complete CAL NG Form 210-1, Bomb Threat Checklist (located in the back of the CAGNET telephone directory), and CAL NG Form 210-2, Telephone Threat Record. If threat is received in writing, save all materials and minimize handling.

WARNING
DO NOT TOUCH OR SEARCH FOR BOMBS OR SUSPECT OBJECTS

4.12 - HAZARDOUS MATERIALS & WASTE MANAGEMENT

4.12.1 - INTRODUCTION

a. Purpose: To establish procedures and policies for environmental management. This document provides guidance to all (FTS) personnel to insure compliance with Federal, State and Local Laws and regulations.

b. Responsibilities:

(1) Facility Commander: Has the overall responsibility for the hazardous waste management system. Serves as the “owner” of any resource conservation and recovery act regulated at the Facility. Will be responsible to regulatory authorities for properly applying for required permits and renewals. Will appoint a hazardous waste manager and assistant hazardous waste manager to insure all facility personnel comply with regulatory requirements for hazardous waste.

(2) Hazardous Material (HAZMAT) Officer: Inspects the facility after each IDT weekend drill for environmental deficiencies and ensures that the facility is in compliance with all regulations. Reports all deficiencies to the Facility Commander. Ensures personnel comply with the provisions of referenced regulations, public law and this sop. Ensures that all HAZMAT handlers and senior personnel have received the proper training and that all personnel who are exposed to hazardous material in the course of their work are made aware of the hazards to which they are exposed. Ensures that employees take the required precautions to protect themselves in the work environment. Ensures all hazardous materials are inspected and inventoried monthly and hazardous wastes are inspected and inventoried weekly. Responsible for the LAAASF Hazard Communication Program.

(3) Hazardous Material/Waste Management NCO: Duties include HAZMAT WM spill coordinator. Responsible for the spill contingency plan and the quarterly training of the Spill Response Team. Maintains the accountability of all HAZMAT. Ensures HAZMAT are stored and disposed of properly. Ensures HAZMAT spills are immediately contained, reported to the fire department, and cleaned up. Ensures that all personnel are trained in the handling and storage of HAZMAT. Establishes and maintains a hazardous waste storage area, with proper separation of non- compatible products, for the Facility. Ensures the proper turn-in of HW. Inspects hazardous waste storage areas weekly and documents results. Ensures only waste oil is placed in the waste oil drums. Ensures the waste oil drums are pumped out when full or 90 days after previous pumping, whichever occurs first. Ensures the wash rack oil/water separator is kept clean and serviceable. Maintains an inventory log of all waste products being stored. Ensures that all hazardous waste containers are properly labeled and ensures disposal within 90 days of accumulation start date. Maintains the Material Safety Data Sheet (MSDS) lists and ensures that personnel have read, understood, and signed a log for each MSDS and stating that they understand the MSDS and safety procedures involved with using the hazardous material.

(4) Safety Officer: Will manage the Hazard Communications program for the facility.

(5) Individual personnel: Responsible for placing hazardous wastes in properly designated containers. Must never place Hazardous Wastes (HW) in a dumpster. Must understand that placing HW in a dumpster is a criminal offense. Must read the MSDS for the hazardous material before using it and make sure they understand the safety procedures. If the safety procedures are not understood then employees should contact their supervisor for clarification. If the MSDS is understood then and only then the log may be signed for that Hazardous Material. Wears proper protective clothing when handling HAZMAT. Ensures that liquid contaminates do not enter the environment by washing down spills. Rags or absorbent that are used to pick up spills must be disposed of in the proper HW container. Reports any ground contamination by Hazardous M/W to the spill response team.

Contaminated soil will be dug up and double bagged (plastic) and placed in a HW container and Insures all HAZMAT containers are closed after use.

c. References:

(1) Title 22, chapter 30, State of California Administrative Code, Environmental Health, Minimum Standards for Management of Hazardous and Extremely Hazardous Waste.

(2) Title 29, Code of Federal Regulation, part 1910, Occupational Safety and Health.

(3) Title 40, Code of Federal Regulation, part 260-280, Hazardous Waste Management System.

(4) Title 49, Code of Federal Regulation, part 171-178, DOT Hazardous Material Regulations.

(5) DOD Reg 4145.19-R-1, Hazardous Material Storage and Handling Criteria.

(6) AR 200-1, Environmental Protection & Enhancement.

(7) AR 200-2, Environmental Effects of Army Actions.

(8) AR 420-47, Solid & Hazardous Haste Management.

(9) CAL ARNGR 200-1, Environmental Management & Protection.

(10) TM 38-250, Preparing of Hazardous Material for MIL shipment.

(11) TM 38-l03-19, Standard Army Intermediate Level Supply System (SAILS), procedures for customers.

(12) DLAH 4145.6, Hazardous Material Storage and Handling Handbook.

d. General:

(1) Department of defense personnel are required to comply with all federal, state, and local laws designed to protect the environment. Used oil products, battery electrolytes and cleaning solvents are some examples of “hazardous waste.” Hazardous wastes cannot be disposed of in a sanitary landfill. These items must be disposed of at a licensed class 1 disposal site, recycled, or otherwise treated by permitted organizations.

(2) Personnel working with and/or around hazardous materials will be made aware of the hazards to which they are exposed and the precautions required protecting themselves. The appropriate safety equipment will also be available in the work area. Information on the dangers and required safety equipment is in the work area. Information on the dangers and required safety equipment is on Material Safety Data Sheets (MSDS).

e. The following items are considered hazardous:

(1) POL products - i.e., Oils, greases, solvents and fuels are a fire hazard, and if allowed to soak into the soil, can pollute aquifers and streams.

(2) Batteries - i.e., lead acid, mercury, nickel cadmium, and lithium electrolytes - can cause explosions, their acids can cause burns and they are highly toxic if allowed to enter the water supply. Lead acid battery electrolyte (sulfuric acid) should never be removed from battery. Mercury and lithium batteries are used in NBC and communications equipment. They must be turned in through supply channels.

(3) Paint products - i.e., Enamel, lacquer, shellac, varnish, stain, and thinner are flammable and/or combustible and some may contain lead or other heavy metals that are toxic.

4.12.2 - REPORTING HAZARDOUS WASTE RELEASE/SPILLS

a. In case of a major Hazardous Waste Release the following action will be taken:

(1) Apply First aid if needed.

(2) Notify the Post Fire Department, phone (61111)

(3) Notify the: HW Officer, CW4 Kotick, phone (62024)
HW NCO, SGT Dobson, phone (6-2030)
HW NCO, SFC Velasquez, phone (62021)
HW NCO, SPC Alba, phone (62340)
HW NCO, SGT Cabanban (61299)

(4) Contain the spill to minimize environmental damage
(5) Use the following emergency equipment located in the shop to contain/cleanup of spills:
(a) Absorbent
(b) Rags
(c) Fire extinguishers
(d) Eye wash

b. In case of a minor Hazardous Waste Release the following action will be taken:
(1) Actions 1,2,3 and 4 of a major spill as noted in paragraph a.
(2) Notify Emergency Response Team (ERT) team leader.

4.12.3 - STORAGE

a. All above ground storage of hazardous waste must be on a non-permeable bermed hard stand, labeled and located 50 feet from all buildings. Used greases, oil filters, solvents, brake fluids, and antifreeze are samples of substances that should be stored in separate containers. The containers (drums, cans or tanks) must be kept closed except when waste is being deposited. This is to safeguard against spills and prevent water from entering the containers. If 2 ½" or ¾" threaded caps for 55-gallon drums are missing a replacement can be obtained from the supply system. To prevent overflow, due to expansion, leave the following headspace:

(1) 55 GAL drum - 3 to 4 inches
(2) 5 GAL cans - 1.5 To 2 inches
(3) 1 GAL cans - 1 inch

b. The post environmentalist must approve the location of the hazardous waste accumulation area.
c. The hazardous waste storage area shall be constructed to include all of the following specifications:
(1) Impermeable bermed containment area that complies with construction criteria required by title 22, section 67245, California code of regulations.
(2) Sign(s) which states "DANGER", "Hazardous Waste Storage Area", "no smoking" will be placed on all four sides of the storage area and must be legible from 50 feet. Signs denoting each hazard class of hazardous waste stored in the area (example: "flammable", "corrosives", "toxic", etc) will be posted on each side of the storage area.
(3) A sign listing the telephone numbers of people/organizations to call in case of a spill or emergency will be posted on the outside of the storage area, on the bulletin board, and on the outside of the front door to the facility. At a minimum, the sign should state "In case of fire, hazardous material/waste spill, or emergency immediately contact the fire department (Telephone # 911 or 6-1111) and DEH, environmental branch of your supporting installation (Telephone 6-2083)".
d. Procedures for disposing of used synthetic, motor and hydraulic oil will be as follows:
(1) The waste oil storage containers will be labeled "Waste Oil Only", and training initiated to ensure only waste oil is placed into that tank. All types of used oil may be mixed in the same barrel.
(2) Most waste oil tanks are pumped on a regular schedule. If the tank fills up before the scheduled pick up date or the tank is not on the schedule, contact your support installation. Tanks must be pumped within 90 days of previous pumping.
(3) Containers for waste oil will be stenciled around the middle one-third band of the container with "Waste Oil Only" in two-inch black letters.
e. Procedures for disposing of contaminated fuel will be as follows: Containers for contaminated fuel will be stenciled around the middle one-third band with "hazardous waste" and "contaminated (Name of Fuel) fuel only" will be stenciled in two-inch black letters.
f. The hazardous waste accumulation area shall have spill contingency materials present and available (not locked up either in or outside the hazardous waste storage area, it must be easily

accessible. At a minimum, the spill contingency materials required are: an empty 55 gallon overpack drum, absorbent, push broom and flat head shovel. The absorbent can be stored in the 55-gallon drum to keep it from weathering.

g. If HZ MW is spilled soak up the puddles with dirt, sand, sawdust or "Safe Step". All the contaminated soil and absorbent material will be placed in a removable head drum(s) and turned in.

h. Chemical products and POL in leaking, corroded, or otherwise deteriorating containers must be packed in DOT approved drums and disposed of as hazardous waste. In order to be accepted for turn-in, the waste material must be in a safe, non-leaking, durable container. Most leakers can be overpacked in steel, removable head drums, which are available through the supply system. Leaking containers of liquids must be packed in absorbent material available at the self-service supply center (SSSC). Fifty-five gallon drum leakers may be overpacked in an 85-gallon drum. The absorbent material must be capable of soaking up all the liquid contents of the drum; therefore, it must be six inches on the bottom and top, with at least two inches around the sides. Leaking containers of non-liquid hazardous waste may not need to be packed with absorbent material.

CAUTION

MANY LIQUIDS, SUCH AS BATTERY ACID, CANNOT BE PACKED IN STEEL CONTAINERS, CALL THE POST ENVIRONMENTALIST

(2) If a drum(s) is not available for overpacking an emergency spill, contact the post environmentalist.

i. A fire extinguisher shall be present at the hazardous waste accumulation area (not locked inside the containment area). The nearest military installation/local fire department can assess the site and establish the type of fire extinguisher needed.

4.12.4 - DISPOSAL OF HAZARDOUS ITEMS AND EMPTY CONTAINERS

a. The following items cannot be processed as scrap and must be turned in as hazardous items since they may contain or be contaminated with oil hydraulic fluid, fuel residue, lead deposits, PCBs or asbestos:

-Mufflers and exhaust pipes	- PCB capacitors and transformers
-Brake shoes and clutch plates	- Hydraulic rams and gas cylinders
-Fuel tanks	- Shock absorbers
-Aerosol cans	- Oil saturated wood and pallets

b. Non-aerosol containers:

(1) Paint: will be disposed of in compliance with local laws and regulations. Contact your Local City or county on how to dispose of your paint. However, does not apply to CARC paint. Any CARC mixture left over after painting must be discarded as hazardous waste. This also includes CARC component "b" that goes bad in the can. It should be clear to pale yellow. If it thickens and appears crystalline in consistency, seal it back up, and dispose of it as hazardous waste.

(2) Solvents and thinner:

(a) Will be disposed of in compliance with local laws and regulations.

(b) Empty containers (drained to less than 1" of residue) over one gallon capacity will be secured onto pallets, labeled with a hazardous waste label and appropriate hazard class label (only required for the containers located on each corner of the pallet) and turned in. For low turnover items containers may be turned in separately. All containers must be closed with an appropriate top, cap or lid.

(c) Used solvents. Containers must have stenciled on the middle one-third band of the container "Hazardous Waste" and "Used (name of solvent) Solvent" in two-inch letters. The date that accumulation began on must be annotated on the hazardous waste label.

(3) Oils and greases:

(a) Empty containers one gallon or less in size will be thoroughly drained into the waste oil tank or drum, properly cleaned and then discarded as trash.

(b) Empty containers over one gallon in size will be handled as described in 10-4,b., (2), (b) above.

(4) Caution: Open containers may emit flammable vapors. Extreme caution must be used to prevent ignition.

4.12.5 - DISPOSAL OF OTHER ITEMS

a. Ethylene Glycol (anti-freeze): used product must be disposed of through the defense reutilization and marketing office (DRMO). Ethylene glycol is a simple easily biodegradable molecule, but it is very toxic. Do not allow puddling of this product/waste as it may be lethal to domestic animals and wildlife. Containers may be thrown in the trash after they have been rinsed and that liquid added to a radiator.
b. Sweeping compound: When contaminated with oil or ethylene glycol it must be disposed of as a hazardous waste.
c. Oil and fuel filters: must be drained, then crushed and disposed of.
d. Wash rack soil/sand residue: if not saturated dispose of IAW state and local laws and regulations. If saturated contact the post environmentalist.
e. Products with expiration dates - i.e., paints greases, etc, will be turned in if their expiration date has been exceeded or if they are excess to the unit. If expiration date(s) have been extended, all applicable containers will be re-marked to show the new date.

4.12.6 - TURN-IN

a. To have waste oil tanks pumped, call two to three weeks before the tank is expected to become full.
b. Report all other waste to post environmentalist.

4.12.7 - TRANSPORT

a. Only a properly licensed carrier will be used to transport hazardous waste.
b. Hazardous waste will not be transported in facility or unit vehicles on public highways.

4.12.8 - POINTS OF CONTACT FOR ASSISTANCE

a. Fire/Police/Ambulance: 911
b. EPA: (800) 474-8802
c. LAAASF INSTALLATION:

OFFICE	CONTACT	PHONE
Fire Dept (LAAASF)		6-1111
Post Environmentalist	Troy Hardin	6-2114
Safety Officer	Chris Trautwein	6-2564

4.12.9 - LABELS

The following labels are required on containers of HAZMAT as per TM 38-250, table 4-1 and DA Pam 310-1 and are available through the publications re-supply system:

SF #	TITLE	EXAMPLE OF PRODUCT REQUIRING LABEL
400	Explosive A	Mass detonation devices
401	Explosive B	Uncontrollable fire causing material
402	Explosive C	Small arm ammunition
403	Non-flammable gas	Oxygen
404	Flammable gas	Acetylene
405	Flammable liquid	Gasoline, propane

406	Flammable solid	Sterno (large qty)
407	Oxidizer	Stb
416	Corrosive	DS-2
418	Spontaneous combustible	Oily rags
430	Dangerous placard	
438	Flammable placard	
431	Explosive A placard	
439	Combustible placard	
432	Explosive B placard	
442	Oxidizer placard	
433	Non-flammable gas placard	
444	Poison placard	
434	Oxygen placard	
445	Radioactive placard	
435	Flammable gas placard	
446	Corrosive placard	
437	Poison gas placard	

b. Additionally all hazardous material will be labeled, by hand if necessary, if transferred from previously labeled containers provided by the manufacturer.

4.12.10 - SPILL CONTINGENCY PLAN

a. Scope: This plan is to provide guidance in case of accidents involving hazardous material.
b. General: The first individual that comes upon a spill will contact the Spill Response Team, HAZMAT Officer and Unit Commander and comply with the following:

(1) Identify the spill by reviewing the Material Safety Data Sheets that are located on the south wall of hangar #1 and the west wall in hangar #2.

(2) Spills involving less than 5 gallons are the responsibility of the employee to clean up.

(3) Spills greater than 5 gallons may require the use of the emergency response team or fire dept.

(4) Spills that endanger life or the environment require that notification be given to the local fire department (phone #61111) and the EPA (Phone 800-474-8802).

(5) Use absorbent to contain and absorb spills. Absorbent is located in the storage building next to the hangar #1 wash rack and an absorbent trash can in hanger #1 & #2.

(6) Safety equipment (respirators, gloves, face shields, etc) is stored in the locker against the south wall of hangar #1.

c. Major spill reporting requirements will be as follows and the listed required information will be forwarded to the fire department and EPA:

(1) Time spill occurred or was first discovered.

(2) Location of spill (Is the spill moving?).

(3) Type of spill (material involved).

(4) Estimate of amount spilled or rate of release if continuing.

(5) Environmental conditions, e.g., wind direction and speed, wave action and currents. (6) If from mobile container such as a Pod, tanker or railway car then identifies the vehicle, owner and capacity.

(7) Description of area likely to be affected by spill, e.g., River banks, lakes, wildlife areas.

(8) Cause of spill, if determined.

(9) Action taken to contain the spill, if any.

(10) Additional comments, information relevant to the situation.

d. If a fire is involved in the spill the following actions will be followed:

(1) Evacuate all nonessential personnel from the area.

(2) Notify the fire department (phone # 6-1111) of size, location and type of material involved.
(3) Attempt to put out or control the fire.
(4) One person will be posted at the gate to guide fire department to fire location.
(5) Fire extinguisher is located next to the hazardous waste storage area.

e. Emergency Flight Line Response Team (ERT) actions will be as follows:
(1) Each unit will have an ERT along with the ERT from the facility.
(2) The ERT will consist of 4 members.
(3) Hazardous material/waste management officer/NCO will provide technical assistance to the ERT and will explain their duties.
(4) The ERT is responsible for the proper clean up and handling of HAZMAT.

f. All incidents that require the activation of the ERT will be reported to the post engineers and the facility commander in writing.

g. Anyone can activate the ERT by informing any team member that there is a spill.

h. A list of emergency response team members will be posted on the HAZMAT boards in hangars #1 & #2.

4.12.11 - TRAINING REQUIREMENTS

a. Federal and state law requires that all personnel managing or handling hazardous wastes must be trained, either through classroom instruction or on-the-job training, to respond to emergencies, protect the environment, and properly handle and dispose of hazardous wastes. Each person handling or managing hazardous waste must complete a minimum of 24 hours of introductory training and 8 hours of annual update training. To meet this requirement unit hazardous waste officers will attend or take the correspondent defense hazardous materials handling course (DHMHC) sponsored by the DEH, environmental branch and the Army Logistics Management Center (ALMC). These persons will in turn train their employees and coworkers upon completing the DHMHC. Military hazardous waste managers and handlers will update their training annually by completing the 8-hour hazardous waste management annual update course, offered by the DEH environmental branch. Each activity will develop a program to train its Hazardous Waste Handlers using an appropriate combination of the following:
(1) The defense hazardous materials handling course
(2) The hazardous waste management annual update course
(3) Unit level, lectures, guest lectures, etc.
(4) Reviewing and learning the Unit Hazardous Waste Management SOP and spill contingency plan.
(5) On-the-job instruction in hazardous waste management procedures from a person trained in those procedures.
(6) Performance of hazardous waste management procedures under the direct supervision of a person trained in those procedures.

b. In addition to the defense hazardous materials handling course both hazardous waste and hazardous materials managers should consider utilizing the following training opportunities as applicable:
(1) Health and safety training for hazardous waste workers. A prospect course is available through the Army Corps of Engineers.
(2) Chemical hazards communication, a videotape (pin 505215) available through the audiovisual warehouse.
(3) Safety orientation session and safety related workbooks, available through the Command Safety Office.

(4) Safety orientation session and safety related workbooks, available through the command safety office.

c. All instances of training must be documented and the following records kept on-site:

(1) The job title, job description, and amount and type of training to be completed by each position involved in managing or handling hazardous wastes.

(2) The name, position and records with document the actual training completed by each person.

4.12.12 - RECORD KEEPING REQUIREMENTS

a. Environmental Management SOP: Destroy 2 Years after Obsolete. File under 200-1a.

b. Environmental Training Records: (Individual): Cut Off Annually, Keep on file for 40 years from cut off date. File under 351A.

c. Copies of Noise/Water/Air Complaints: Destroy after 10 Years. File under 200-1b. Copy Furnished to DEH Engineers.

d. Copies of all Work Orders (DA FORM 4283) Reference Hazardous Materials/Waste Projects. File under 200-1A.

e. Spill Report: Use as Needed. Destroy After 10 Years. Copy Furnished to DEH Engineers.

f. Unit Level Hazardous Material/Waste Checklist: Destroy after 1 year. File under 200-1a.

g. Checklist for Weekly Hazardous Material/Waste Inspection: Destroy after 1 year. File under 200-1a.

h. Checklist for Monthly Hazardous Material/Waste Inspection: Destroy after 1 year. Copy will be furnished to DEH Engineer. File under 200-1a.

i. Checklist for Quarterly Hazardous Material/Waste Inspection: Destroy after 2 years. Copy will be furnished to DEH Engineer. File under 200-1a.

j. Hazardous Material Storage Log: Destroy after 2 years from disposition of Hazardous Materials. Copy will be furnished to DEH Engineer. File under 200-1a.

k. Hazardous Waste Storage Inspection Log: Destroy after 1 year from disposition of Hazardous Waste. Copy will be furnished to DEH Engineer. File under 200-1a.

l. Hazardous Waste Disposal Log: Destroy after 2 years from disposition of Hazardous Waste. Copy will be furnished to DEH Engineer. File under 200-1a.

4.12.13 - TAB A (LAAASF SPILL REPORT)

INSTRUCTIONS: Fill out this report for any spill that occurs and keep it on file. Make a copy of this report and forward it to the DEH Engineer no later than 24 hours from the discovery of the spill. In addition, contract the Post Environmentalist no later than first working day after the occurrence of the spill.

UNIT:_____DATE:_____SUBMITTED BY: _____
DUTY SECTION: _____ LOCATION OF SPILL: _____
DESCRIPTION OF SPILL: _____
_____
_____
HAZARDOUS MATERIALS/WASTE INVOLVED: _____
_____
SPILL CONTAINMENT MEASURES TAKEN: _____
_____
_____
WAS OUTSIDE ASSISTANCE REQUIRED (Circle One): YES NO
IF YES: NAME: _____ PHONE NUMBER: _____
ORGANIZATION: _____

MEASURES TAKEN TO PREVENT REOCCURRENCE:
_____
_____
_____

4.12.14 - TAB B (HAZARDOUS MATERIAL STORAGE LOG)

. DATE: TYPE: MATERIAL:
LOCATION: OWNER:

(1) REMARKS:

(2) INSPECTOR'S SIGNATURE:

(3) INSPECTOR'S NAME:

. DATE: TYPE: MATERIAL:
LOCATION: OWNER:

(4) REMARKS:

(5) INSPECTOR'S SIGNATURE:

(6) INSPECTOR'S NAME:

. DATE: TYPE: MATERIAL:
LOCATION: OWNER:

(7) REMARKS:

(8) INSPECTOR'S SIGNATURE:

(9) INSPECTOR'S NAME:

4.12.15 - TAB C (UNIT LEVEL CHECKLIST)

INSTRUCTIONS: The Unit Level Checklist is to be completed at the end of each Drill or other scheduled troop training. The assigned HM Officer or Safety Officer of the unit will accomplish this and a copy will be left for the Facility Manager on the first working day following the training period. This checklist will be maintained on file with both the unit and facility FOR ONE YEAR.

Answer YES, NO or N/A

1. Does the unit have a Hazardous Material/Waste SOP?
2. Is a Unit Hazardous Material/Waste Management Officer
   A. Appointed?
   B. Trained?
3. Are Emergency Notification Procedures posted?
4. Have Emergency Response Team members been:
   A. Assigned?
   B. Trained?
5. Are Spill Contingency Plans posted?
6. Have newly assigned personnel received Hazard Communication Program training or scheduled for training?
7. Is the Inventory of:
   A. Hazardous Materials up to date?
   B. Hazardous Wastes up to date?
8. Are Material Safety Data Sheets (MSDS) present?
9. Are there excess Hazardous Materials or non-hazardous materials with the potential for becoming Hazardous Waste?
10. Are materials ordered in compliance with HAZMAT
11. Are storage containers of Hazardous Material/Waste properly sealed?
12. Do containers show any signs of leaks/rust?
13. Are storage containers properly marked to identify contents?
14. Are Hazardous Material/Waste containers stored in separate storage areas?
15. Is a Fire extinguisher located near the HAZMAT storage?
16. Does unit have applicable regulations on hand?
17. s there an adequate supply of protective clothing, gloves, goggles, and breathing masks for personnel handling Hazardous Material/Waste?
18. Are flat-head shovels and brooms available?
19. Have there been any spills?
20. Was a Spill Report submitted?
21. Was vehicle maintenance preformed and waste (waste oil, used anti-freeze, etc.) produced?
22. Was this waste placed in the proper container, with the correct markings on it?
23. Was the container overfilled?
24. Was action taken to correct the over filling?
25. Remarks:

DATE OF CHECK:
UNIT CHECKED:
NAME OF CHECKER:
DATE REVIEWED BY FACILITY MANAGER:
(MAINTAIN ON FILE FOR ONE YEAR, THEN DESTROY)

4.13 - SAFETY

4.13.1 - GENERAL

a. The safety rules and regulations set forth in this SOP prescribe safe methods and practices for insuring continuity of production, safeguarding personnel and preventing property damage.
b. All assigned personnel will consider the prevention of injuries to soldiers under their jurisdiction to be as important a phase of his job as quality and quality of maintenance performed. To accomplish this, personnel will work safety, provide close supervision correct unsafe acts, mechanical or physical conditions enforce safety regulations, investigate and take action necessary to ensure the safety of personnel and equipment.
c. Safety Awareness
(1) In applying safety precautions to the airfield, the primary hazards will be identified and controls established to safeguard personnel from these hazards.
(2) Some of the most common hazards associated with airfield operations are:
(a) Horseplay
(b) Materials handling
(c) Failure to comply with regulations
(d) Failure or lack of physical conditioning
(e) Excessive speed
(f) Carbon monoxide poisoning
(g) Complacency
(3) Fire prevention: All personnel will become familiar with the AASF Fire Plan. A copy will be posted on the bulletin board.
(4) Operation of Vehicles:
(a) The operation of any vehicles in an unsafe condition is prohibited. A vehicle is unsafe when it can be reasonably determined that any operational part of the vehicle is not functioning property or is defective.
(b) Motor vehicles will be operated only by properly dispatched drivers who hold a valid permit, except that driver trainees or examinees may operate training test vehicles under the direct and personal supervision of a qualified examiner or instructor in the vehicle.
(c) All personnel will make on the spot corrections for personnel being carried in a standing position, overloading, improper mounting and dismounting, improper backing of vehicles (Especially at night) and failure to use backing guide at all times.

4.13.2 - ACCIDENT REPORTING

a. Accidents will be reported immediately to the first supervisor in an individual's chain of command. The supervisor will notify the Maintenance officer. The Maintenance officer will notify the Safety Officer and an investigation will be conducted.
b. Any accident, spillage, or breakage of an item or substance, to which there is some question as to the amount of hazard involved, will be reported to the fire department immediately. The fire department will determine the course of action to be taken. Refer to CA ARNG 200-1.

CAUTION
UNDER NO CIRCUMSTANCES WILL AN INDIVIDUAL TAKE IT UPON HIMSELF TO HANDLE THE SITUATION ALONE

4.13.3 - FLIGHT LINE

a. Ground handling of aircraft is an extremely important function of maintenance personnel. Improper towing, mooring, or handling may cause serious damage to the aircraft or injury to personnel. All

personnel must be familiar with technical manuals and directives governing these activities to maintain the most efficient and safe operation.
b. Starting of aircraft engines:
(1) When available a fireguard will be posted near the left front of the aircraft in a position to observe the pilot and the entire left side of the aircraft. The fireguard will have a fire extinguisher ready for use.
(2) The area around the aircraft will be clear of all tools, rags, and other extraneous objects.

4.13.4 - OIL SERVICING

a. General precautions for oil servicing are the same as for fuel servicing. Additional safety precautions for oil servicing and draining are as follows:
(1) Drip pans will be used.
(2) Exercise caution to prevent overfilling or spilling.
(3) Empty or partially full oilcans will be disposed of as hazardous waste (Refer to HAZMAT section of this SOP).
b. In the event of a spill immediate action will be taken to remove the spilled oil from the aircraft and adjacent areas. Clean rags will be used to remove oil spillage from aircraft. Sand, dirt, sawdust and oil absorbent may be used to remove oil spillage from adjacent areas. Never use flammable solvents to remove oil. Refer to HAZMAT section of this SOP.

4.13.5 - VEHICLE PRE-OPERATIONAL CHECKS

Before operation, check the appropriate operator's manual (-10) and comply with all requirements. Report discrepancies to the GSE office.

4.13.6 - HOUSEKEEPING

a. Drip pans will be used whenever an aircraft is parked in the hangar or if work on the aircraft on the flight line might cause oil or hydraulic fluid to be spilled. All spills will be cleaned up immediately with approved absorbent. The hangar floor should not be cleaned with volatile liquids.
b. Aisles are clearly defined and must be kept free of hazardous obstructions. Clear aisle space must be maintained as approach ways for fire fighters and for easy access to fire fighting equipment, control devices, fuse boxes and switch panels.
c. Exterior of buildings:
(1) Materials will not be stored or piled against building.
(2) No materials will be stored against doors or exits.
(3) Weeds and other vegetation should not be permitted to grow or accumulate near buildings.

4.13.7 - PROPER USE OF TOOLS

a. Misuse of hand tools causes many accidents, due to a misconception that hand tools are simple devices anyone can use. The following rules apply in the use of hand tools:
(1) All hand tools will be of good quality.
(2) Only the tools designed for the job being performed will be used.
(3) All hand tools requiring handles will have the handles securely fitted. Tools with loose or broken handles will not be used.
(4) Cold chisels, hammers, punches, and drift pins and any other tool with a tendency to mushroom at the head will be dressed as soon as they begin to check. A slight radius, preferably about 3/16 of an inch, should be ground on the edge of the head.
(5) All keen-edge blades will be kept sharp and stored in a safe place when not in use. Sharp edged or pointed tools will not be carried in clothing pockets.
(6) Normally, a tool should be used so that working force is applied away from the body to minimize the chance of injury if the tool slips.

(7) Suitable impact goggles or face shields will be worn when the work being done creates the possibility of flying chips or particles.

(8) Hand tools will not be applied to moving machinery.

b. Power tools: Power tools may be electric or air powered. Hazards connected with use of portable power tools are electrical shock, burns, sprains, and particles in the eye. Accidents will be eliminated by:

(1) Switch on power tools should be shielded to prevent accidental operation. Power tool switches should be of the safety type requiring continuous pressure to operate so that when the switch is released the tool will stop.

(2) Cords, hoses, and cables in use will be located so as not to cause a tripping hazard.

(3) Gloves, loose clothing, watches, clip-on insignia and finger rings will not be worn when working with power tools or on aircraft.

(4) Goggles will be worn when using power tools.

(5) Suitable respirators will be worn when dust and other respiratory hazards are created.

(6) Power tools will be inspected before use and kept in safe working condition. Broken and worn parts, frayed cords and defective tools will be replaced.

(7) Grinding tools will be permanently guarded around the upper half. Heavy pressure will not be exerted on the side of grinding wheels. All mounting should be secured and the wheel firmly held on spindles by the flange nuts. The guards on grinding tools should be checked and adjusted frequently to ensure that excess clearance does not exist between the grinding wheel and the guard. Excess clearance has caused many accidents. Aluminum, plastic or brass will not be ground on bench grinder.

4.13.8 - AIRCRAFT MAINTENANCE SAFETY

a. Aircraft will be connected to low resistance ground before any maintenance services are performed in the hangar.

b. All adjustments and maintenance work on the aircraft should be made with the engines stopped, unless required. Aircraft engines will not be operated inside the hangar under any circumstances.

c. Maintenance personnel or pilots will not operate aircraft controls until they know that all personnel are clear of moving parts.

d. When aircraft fuel tanks are to be drained for inspection or repair, the draining will be done at the approved de-fueling site only.

e. Horseplay will not be permitted in or around aircraft or maintenance activity.

f. Suitable work stands are to be available and will be used by maintenance personnel during all maintenance activities requiring personnel to work at levels not readily accessible from the hangar floor. Under no circumstances will makeshift scaffolding be used around aircraft.

g. Jacks will be subject to thorough inspection for proper functioning of safety locks, jack fluid and other parts prior to use. Secondary lifting device should be used where danger exists of the aircraft falling. The area beneath the aircraft should be clear of all personnel and objects before jack pressure is released to lower the aircraft.

h. Engine and other heavy parts will be lifted or removed by hoists or similar handling equipment. Only authorized personnel are permitted to operate hoists. All hoists will be periodically inspected and properly marked to indicate maximum load and to detect and remedy defective frames, pulleys, and cables.

i. Toolboxes will not be laid on aircraft surfaces. Heavy tools will be properly secured when used on aircraft to prevent their falling and causing injury to personnel or damage to aircraft.

4.13.9 - HEARING CONSERVATION

a. The hearing conservation program objective is to prevent hearing loss from exposure to noise. Identifying noise hazardous areas, posting of noise hazardous areas and equipment, use of hearing protection devices, hearing tests, education, supervision, and discipline of personnel will attain the objective.
b. Noise hazard survey:
(1) All noise hazardous areas should be surveyed once a year by the facility.
(2) Caution signs will be posted at entrances to, or on the periphery of, noise hazardous areas. DA Pam 40-501 states that steady noise levels of 85 db or greater are considered hazardous areas and that personnel will be issued personal hearing protection devices. These devices consist of earplugs, earmuffs, or noise-attenuating helmets.

4.13.10 - SMOKING

Smoking policy is IAW AR 600-63 and includes the following:
a. Smoking will be restricted to designated areas that are clearly posted only.
b. Smoking within 50 feet of any aircraft is prohibited.
c. Smoking while performing maintenance is prohibited.

4.13.11 - ENGINE OPERATION

The following general instructions apply to operating engines on Army aircraft. (For specific operating instructions, refer to the applicable operator's manual).
a. Prior to engine start:
(1) Use eye and hearing protection devices.
(2) Place a crewmember equipped with an approved fire extinguisher in plain view of the pilot to observe for fire and fire hazards, such as fuel from overflow lines, and for chock slippage. This crewmember will also make periodic visual checks for fuel and oil leakage and other abnormal conditions.
b. Safety during engine starting procedure:
(1) Use hand signals to direct activity when engine-operating noise will not permit voice communication.
(2) If an aircraft or engine fire occurs during start or while operating, the pilot will attempt to extinguish it as prescribed in the appropriate operating manual. If this fails, the fireguard must immediately use the approved fire-extinguishing agent. If the fire gets beyond the control of both the pilot and fire guard, exit the aircraft and call the fire department.
(3) During engine start and while the engines are operating, ensure that personnel stand well clear of tail rotors, main rotors, and areas that are affected by turbine air intake flow and exhaust blast.
c. Safety during engine operation:
(1) Do not operate engines in the hangars.
(2) Make sure that no person, vehicle, or aircraft approaches within 200 feet to the rear of turbine powered aircraft or closer than 100 feet of other types of powered aircraft unless the engine is idling and pilot is aware of their presence. This does not include approved helicopter or airplane parking areas that are closer than this during normal operations or test flights originating from an approved parking location with less than the above stated clearances.
(3) Make sure that all personnel remain at least 25 feet away from the front of turbine-operated aircraft inlet ducts and do not come closer than 5 feet to inlet ducts rear or side of the aircraft unless required to do so while performing operational checks or making mechanical adjustments.
(4) Do not carry loose items such as small tools or rags in pockets when required to approach close to operating turbine-powered aircraft air inlet ducts.

d. Instruction peculiar to rotary-wing aircraft:

(1) Keep all non-essential personnel and equipment a distance of at least two aircraft length's away from the aircraft because when a quick excessive throttle advancement occurs, the tail could swing rapidly and cause injury or damage to personnel and equipment from the tail rotor.

(2) Non-essential personnel shall stand clear of the plane of rotation of the main rotor and tail rotor during operation.

(3) Approach main rotor blades with caution, especially blades with a low plane of rotation, as in the UH-60 Main rotor blades that can droop down to approximately 4 feet at reduced speeds.

(4) When practicable, make adjustments to engines and rotors only when engine is stopped.

4.13.12 - GROUND HANDLING

a. The assigned crewchief or mechanic should be responsible for the movement of the aircraft during ground handling and towing operations. If the crewchief or mechanic assigned is not available, a person familiar with the type of aircraft to be moved will be responsible for the operation. Ground guides (wing walkers) will be used when moving aircraft in close proximity to obstacles.

b. When the aircraft is being towed, appropriate towing bars and ground-handling wheels for that particular type of aircraft will be used. The aircraft will not be run-up while the tug is attached. Technical manuals and handbooks applicable to each aircraft will be followed for towing.

c. Towing speeds will be slow, not faster than walking speed. Sudden starts and stops are to be avoided. Sharp turns will be avoided.

d. Vehicles and personnel will yield the right of way to towed aircraft at all times.

e. Vehicle speed on the ramp is a maximum of 10 miles per hour whether towing or not.

4.13.13 - FOREIGN OBJECT DAMAGE (FOD) PREVENTION

a. Purpose: To establish and maintain an effective FOD control program within the LAAASF.

b. Personnel responsibilities:

(1) Commander: FOD prevention is a command responsibility. The commander will insure that an effective program is established and will:

(a) Assign a FOD Control Officer/NCO.

(b) Periodically inspect and supervise the FOD prevention program.

(c) Insure that all incoming personnel are briefed concerning their responsibilities for FOD prevention.

(d) Provide adequate FOD containers throughout the maintenance and flight line areas.

(2) Aviation Safety Officer:

(a) Continuously monitor and survey the FOD prevention program.

(b) Insure that FOD prevention is discussed at unit safety meetings when required.

(c) Establish an ongoing inspection system of all current and proposed landing areas.

(3) FOD Control Officer/NCO: Is responsible to the Commander for the supervision of the FOD program and will accomplish the following:

(a) Assist the Commander by supervising the FOD prevention program.

(b) Advise the Commander on all FOD hazard trends and uncorrectable deficiencies.

(c) Inspect the Facility Bi-monthly, specifically for FOD deficiencies using the Annex A-10 (FOD Control Checklist).

(4) Mechanics and crewmembers:

(a) Will use FOD containers located throughout the maintenance work area and flight line when applicable.

(b) Prior to beginning a preflight, crewmembers will conduct a visual inspection of all areas adjacent to the aircraft, removing any objects that could cause FOD.

(c) Personnel who will be climbing on and around the aircraft will insure that there is nothing in their pockets or pinned to their clothing that could drop into the air intakes or moving parts of the aircraft.

(d) Crewmembers will insure that all items to be transported inside the aircraft are properly secured before takeoff.

(e) Report any FOD hazards conditions that cannot be corrected to the FOD/NCO or FOD Officer immediately.

(f) Insure that fuel sample bottles are returned to their proper storage area.

(g) FOD prevention will be incorporated in all maintenance training.

(h) Police the maintenance area at least once each day.

(i) Police the immediate area of an aircraft upon completion of maintenance, IAW Annex A-5 (Aircraft Daily Inspection Checklist).

(j) Check toolbox/toolbag at the completion of each maintenance task. The shadowed toolbox is the desired method of tool accountability however the use of Annex A-10 (FOD/Tool Accountability Checklist) is acceptable when shadowing is neither available nor practical.

(k) All rings, watches, pens, pencils, uniform insignia (pin on) and boots with taps or tacks that contact the ground are considered foreign objects and will not be worn when performing maintenance and pre-flights on the aircraft.

c. The FOD control technician will stress the importance of compliance with these guidelines, not only for FOD control, but also as general safety considerations.

d. The FOD Control Officer and FOD Technician will be members of the AASF-Los Alamitos Safety Council.

4.13.14 - LOST TOOL CONTROL PROCEDURES

a. Purpose:

(1) The intent of the tool control program is to prevent personal injury and damage to government equipment. Supervisors and Mechanics will become familiar with the tool control procedures and aggressively enforce all aspects of the program.

(2) This is a working document, and we expect everyone to provide recommendations on how it can be improved.

(3) A lost tool is anything used to repair or maintain aircraft that is missing after completion of the work.

b. Responsibilities:

(1) Facility Commander: The AASF Commander has the overall responsibility for tool control.

(2) Maintenance Officer: The maintenance officer will manage the tool control program for the facility, provides constant feedback to the Safety Officer on the success of the program and any changes that need to be incorporated, coordinates lost tool searches, with the authorization of the Facility Commander. The Maintenance Officer can release aircraft affected by a lost tool, and advises the Facility Commander when a lost tool affects an aircraft status.

(3) Quality Control Office: Performs random spot checks of tool boxes and personnel to ensure adherence to all tool control program requirements and may sign off a lost tool Red “X” when the tool has been found.

(4) Mechanic Supervisor: Will ensure subordinate personnel comply with all aspects of tool control procedures. Establish a thorough tool control training program throughout the facility. Ensure that all tools are painted, etched, or taped for easy identification. Will ensure all toolboxes are shadowed, if tool boxes/bags cannot be shadowed then an alternate and adequate/practical means of tool accountability will be used such as Annex A-10 (FOD/Tool Accountability Checklist). Ensure any time a tool is missing or broken that an Annex A-9 (Lost/Missing/Broken Tool Report) is completed. Will

maintain a log of all tools missing or broken. The log as a minimum will contain the report serial number, calendar date, tool, employee's name, action taken and signature of the Maintenance Officer. When a tool is reported missing the Mechanic Supervisor will immediately ground the affected aircraft. The aircraft will remain grounded until the missing tool is found or "signed off" by the proper authority. The Supervisor will notify the maintenance officer and flight operations.

Note

The time from when a tool is missing to the time the Mechanic Supervisor grounds all affected aircraft shall not exceed one hour.

(5) Tool room technician: Worn or broken tools will be replaced on a one for one exchange only.

(6) Mechanics: Will ensure items used in the inspection and repair of aircraft are accounted for before anyone is allowed to perform a maintenance operational check or flight in that aircraft. Will inventory all tools and equipment to include rigging pins and special tools at the beginning and end of each maintenance action. If a tool is missing the Mechanic will conduct a thorough inspection of the aircraft and follow the Lost Tool Procedures of Annex A-9 (Lost/Missing/Broken Tool Report). If tool is not found the Mechanic will take the aircraft logbook to the Supervisor and report the missing tool. All mechanics toolboxes will be locked except when in actual use. The person using the toolbox remains in the immediate area.

4.13.15 - BATTERY SHOP

a. Only the aviation electrician or a person designated by the EMS will work in the battery shop. Regardless of whom, this person will be knowledgeable in the operation of the shop.
b. Overcharging is to be avoided to prevent the creation of highly explosive gas mixtures.
c. A deluge shower with alarm and eyewash are provided. If electrolyte is splashed on the body, the affected surface should be flushed with water. The deluge shower will be run for three minutes each week to flush out stagnant water.
d. Care must be taken when handling batteries so that no spark producing or insulated to prevent serious burns.
e. Floors will be kept clean and dry.

4.13.16 - AVIONICS SHOP

a. Two people should be present in the shop when power is applied to the workbenches.
b. One hand should always be kept clear when working near high voltage or amperage.
c. Rings and watches will not be worn in the shop or on the flight line.
d. Dummy loads will be used to absorb RF when free space transmission is not necessary.

4.13.17 - RESPIRATORS

a. Respiratory protection will be used when air contamination cannot be controlled to a safe level, or when contaminate levels are unknown.
b. Respirator selection will be made IAW Respirator Program (TB Med 502) and the 3M-selection chart.
c. Respirators will be issued to technicians for their exclusive use. Additional respirators will be stored in the supply room for issue to temporary technicians and M-Day personnel.
d. Training in the use of respirators will be completed by certified instructors at initial issue and annually as required. Training records will be maintained IAW TB MED 502.
e. Respirators will be fit tested at initial issue, after repair or service and annually as required. User will perform positive and negative pressure test before each use.
f. Appropriate respiratory protection will be used when air contamination levels cannot be controlled at a safe level by natural or mechanical ventilation and as required by the Product Material Safety Data Sheets. See the Hazardous Materials Control Program binder for MSDS.

g. Respirators issued for exclusive use will be cleaned regularly by user. Respirators for general use will be cleaned and disinfected after each use IAW TB MED 502.
h. Respirators will be stored to protect against dust, sunlight, heat, extreme cold, excessive moisture or damaging chemicals, and other contaminates.
i. Supervisors shall conduct random inspections to ensure respirators are properly selected, used, cleaned and maintained.

4.13.18 - Radio Frequency Radiation (RFR) Protection

a. These rules and procedures ensure that Permissible Exposure Levels (PEL) of radio frequency radiation will not be exceeded, The free space transmission of radio frequency radiating sources anywhere within facility buildings is prohibited. Dummy loads, test sets, or roof-mounted antennas will be utilized wherever the transmitters of RFR sources are being tested.
b. Warning signs: Standard RFR warning signs will be posted to roof mounted antenna systems to warn building maintenance personnel of potential hazards.
c. Warning messages: All warning messages in TMs, FMs, TBs and other published directives will be strictly observed.
d. Initial and periodic (Annual as a minimum) RFR safety briefings will be required to work with controlled RFR sources. A permanent record will be kept of the content of these briefings and the attendance roster.
e. The Electronics Mechanic Supervisor is the Radiation Protection Officer (RPO) and is responsible for the non-ionizing radiation protection program. He will insure of the following:
(1) All instances (suspected or actual) of RFR overexposure are properly investigated, documented and that appropriate action is taken.
(2) The RFR SOP is posted in a conspicuous area within the avionics shop.
(3) A medical surveillance program is established for all personnel who are at risk of overexposure to RFR levels in excess of the PEL.
(4) All necessary information/concerns relative to the safety of RFR activity at this facility are directed to the RPO.
f. The following are the RFR sources operated by this facility:
(1) Radio sets (ARC series). AN/ARC-54, -114, -114A, -131, -164, -186.
(2) Radio sets (ARN series). AN/ARN-82, -83, -89, -123, -128, -209.
(3) Radio sets (APX series). AN/APX-72, -100.
(4) Radio sets (VRC series). None.

4.13.19 - Lock out - Tag out

4.13.20 - Who is Covered

The Lock Out/Tag Out standard applies to all employees servicing and maintaining machines and equipment in which the unexpected energization or start up of the machines or equipment or release of stored energy could cause injury to the employee. Normal production operations are not covered provided the employee is not required to remove or bypass a guard or other safety device; or the employee is not required to place any part of the body into an area on a machine or piece of equipment where the work is actually performed (point of operation) or where an associated danger zone exists during a machine operating cycle.

4.13.21 - What Training is Required

Training is to be provided to insure that the purpose and function of the energy control program (Lock Out/Tag Out) are understood by employees and that the knowledge and skill necessary for the safe application, usage and removal of energy controls are acquired by employees. The training is to include the following:

a. Recognition of applicable hazardous energy sources, including type and magnitude and the required methods and means necessary for energy isolation and control.
b. The purpose and use of the energy control procedure.
c. Communication to other employees whose work operations are or may be in the area where energy control procedures are utilized pertaining to the requirements of the energy control program.
d. Additional training where Tag Out systems are used rather than Lock Out systems, based on the limitations of such procedures.
e. Whenever outside servicing personnel are engaged in energy control programs.

4.13.22 - WHEN TRAINING IS REQUIRED

Employees must be trained when hired to work in areas using the energy control program. They must also be trained relative to the specific machinery and equipment and upon change within crew, craft, department or shift.

4.13.23 - RECORDKEEPING REQUIREMENTS

Certification shall be provided that training has been accomplished and is being kept up to date. This certification shall contain each employee's name and dates of training. Records must be kept for five years.

4.13.24 - REGULATION

California Occupational Safety and Health Administration (CAL-OSHA)
Title 8, section 3314 cleaning, repairing, servicing and adjusting prime movers, machinery and equipment.
Title 8, section 2320.2; 2320.5; 2320.6; 2530.86; and 6003.

4.14 - CONFINED SPACES

4.14.1 - REFERENCE:

OSHA Standard Number: 1910.146

4.14.2 - CONFINED SPACE:

a. Is large enough and so configured that an employee can bodily enter and perform assigned work
b. Has limited or restricted means for entry or exit (for example, fuel cells, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry)
c. Is not designed for continuous employee occupancy.
Note
Common examples of “confined spaces” at the Airfield or Flight Facility include but are not limited to, UH-60 fuel cells, inside Arms Rooms, Water Buffalos, UH-60 tail booms, and Conexs that are so full that quick exit is impeded.

4.14.3 - PERMIT-REQUIRED CONFINED SPACE:

a. Contains or has a potential to contain a hazardous atmosphere, such as but not limited to, flammable, toxic, oxygen deficient, etc.
b. Contains a material that has the potential for engulfing and crushing or suffocating a worker.
c. Has an internal configuration such that an worker could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward to a smaller cross-section.
d. Contains any other recognized serious safety and health hazard.

e. Each situation must be measured against these criteria to determine if it is a permit-required confined space. The same space could change its status based on its contents or ventilation.
Note
Common examples of “permit-required confined spaces” in the Regiment include but are not limited to, inside of HEMTT fuel tanks (Airfield), TPU fuel tanks, UH-60 fuel tanks.

4.14.4 - DEFINITIONS:

a. "Attendant" means an individual stationed outside one or more permit spaces who observers and monitors the authorized entrants and who performs all attendants’ duties assigned in this program.
b. "Authorized entrant" means an employee who is authorized by the employer to enter a permit space.
c. "Emergency" means any occurrence (including any failure of hazard control or monitoring equipment) or event internal or external to the permit space that could endanger workers.
d. "Entry" means the action by which a person passes through an opening into a permit-required confined space. Entry includes all ensuing work activities in that space and is considered to have occurred as soon as any part of the entrant's body breaks the plane of an opening into the space.
e. "Entry permit,” means the written or printed document (blank permit enclosed) that is provided to allow and control entry into a permit space.
f. "Entry supervisor" means the person (Commander, Platoon Leader, Platoon Sergeant, or Shift Leader for contract or civilian workers) responsible for determining if acceptable entry conditions are present at a permit space where entry is planned, for authorizing entry and overseeing entry operations, and for terminating entry as required by this section.
Note
An entry supervisor also may serve as an attendant or as an authorized entrant, as long as that person is trained and equipped as required by this section for each role he or she fills. Also, the duties of entry supervisor may be passed from one individual to another during the course of an entry operation.
g. "Hazardous atmosphere" means an atmosphere that may expose employees to the risk of death, incapacitation, impairment of ability to self-rescue (that is, escape unaided from a permit space), injury, or acute illness from one or more of the following causes:
(1) Flammable gas, vapor, or mist in excess of 10 percent of its lower flammable limit (LFL).
(2) Atmospheric oxygen concentration below 19.5 percent or above 23.5 percent.
(3) Atmospheric concentration of any substance for which a dose or a permissible exposure limit is published in CFR 1910 Subpart G, Occupational Health and Environmental Control, or in Subpart Z, Toxic and Hazardous Substances, and which could result in employee exposure in excess of its dose or permissible exposure limit.
(4) Any other atmospheric condition that is immediately dangerous to life or health.
Note
For air contaminants for which OSHA has not determined a dose or permissible exposure limit, other sources of information, such as Material Safety Data Sheets, Technical Manuals, or other published information can provide guidance in establishing acceptable atmospheric conditions.
h. "Hot work permit" means the employer's written authorization to perform operations (for example, riveting, welding, cutting, burning, and heating) capable of providing a source of ignition. Not applicable to the Airfield or the Flight Facility.
i. "Non-permit confined space,” means a confined space that does not contain or, with respect to atmospheric hazards, have the potential to contain any hazard capable of causing death or serious physical harm.

j. "Oxygen deficient atmosphere" means an atmosphere containing less than 19.5 percent oxygen by volume.
k. "Oxygen enriched atmosphere," means an atmosphere containing more than 23.5 percent oxygen by volume.
l. "Rescue service" means the personnel designated to rescue employees from permit spaces.
Note
The Fire Department is the only personnel authorized to conduct rescues in "Permit-required" confined spaces.
m. "Testing" means the process by which the hazards that may confront entrants of a permit space are identified and evaluated. Testing includes specifying the tests that are to be performed in the permit space.
Note
Testing enables employers both to devise and implement adequate control measures for the protection of authorized entrants and to determine if acceptable entry conditions are present immediately prior to, and during, entry. The Installation's Preventative Medicine Industrial Hygiene section are the only people authorized to conduct testing.

4.14.5 - GENERAL STANDARDS:

Commanders shall assess their operations and determine if they have any confined space or permit-required confined space operations at their job site, using the criteria listed above.

4.14.6 - CONFINED SPACE STANDARDS:

a. Ensure that all employees are briefed on emergency escape procedures.
b. Ensure employees don't introduce any hazards that could change the confined space to a permit-required confined space, without implementing all the necessary permit-required confined space control measures.
c. Ensure all impellers, agitators, or other moving parts and equipment inside the confined space are disconnected or locked-out if they present a hazard, prior to anyone entering the confined space.
d. Ensure adequate ventilation.
e. Ensure employees notify someone when they enter and exit the confined space.
f. Ensure that employees are not inadvertently locked or trapped in the confined space by placing a sign at the entrance when occupied.
g. Ensure adequate illumination provided for the work to be performed in the confined space.

4.14.7 - PERMIT-REQUIRED CONFINED SPACE STANDARDS:

a. Ensure confined spaces thoroughly emptied of any corrosive or hazardous substances, such as acids or caustics, before entry.
b. Ensure all lines to a confined space, containing inert, toxic, flammable, or corrosive materials valves off and blocked or disconnected and separated before entry.
c. Ensure either adequate natural or mechanical ventilation such as exhaust fans, self-contained breathing apparatus, (SCBA) or in-line fresh air respirator is provided prior to confined space entry.
d. Ensure appropriate atmospheric tests are performed to check for oxygen deficiency, toxic substances and explosive concentrations in the confined space before entry.
e. If the work cannot be completed in a short time, ensure the atmosphere inside the confined space is frequently tested or continuously monitored during conduct of work.

f. Ensure there is an assigned attendant outside of the confined space, whose sole responsibility is to watch the work in progress, sound an alarm if necessary, and render assistance WITHOUT entering the confined space.
g. Ensure the attendant is appropriately trained and equipped to handle an emergency.
h. Ensure the attendant and other employees are prohibited from entering the confined space without lifelines and SCBA if there is any question as to the cause of an emergency.
i. Ensure the approved respiratory equipment required is available, if the atmosphere inside the confined space cannot be made acceptable.
j. Ensure all portable electrical equipment used inside confined spaces is both grounded and insulated, or equipped with ground fault protection.
k. Ensure that before gas welding or burning is started in a confined space, air hoses are checked for leaks, compressed gas bottles are forbidden inside of the confined space, torches are lighted only outside of the confined area and the confined area is tested for an explosive atmosphere each time before a lighted torch is to be taken into the confined space.
l. Ensure that if employees will be using oxygen consuming equipment-such as salamanders, torches, and furnaces, in a confined space, there is sufficient air provided to assure combustion without reducing the oxygen concentration of the atmosphere below 19.5 percent by volume.
m. Ensure that whenever combustion-type equipment is used in a confined space, provisions made to ensure the exhaust gases are vented outside of the enclosure.
n. Ensure each confined space checked for decaying vegetation or animal matter, which may produce methane, which is explosive.
o. Ensure the confined space is checked for possible industrial waste, which could contain toxic properties.
p. Ensure that if the confined space is below the ground and near areas where motor vehicles will be operating, you prevent vehicle exhaust and carbon monoxide from entering the space.
q. Appoint an Entry Supervisor

4.14.8 - ENTRY SUPERVISOR RESPONSIBILITIES

a. Ensure that all the control measures above are completed before any employee enters the permit-required confined space.
b. Complete Tab A (Confined Space Permit) below and post all three copies at the work site until the work is completed, after which distribute the copies as stated on the bottom of the permit.
c. Cease operations when any of the control measures are degraded, and prevent unauthorized persons from entering the confined space or interfering with the operation.

4.14.9 - ATTENDANT RESPONSIBILITIES

a. Ensure that he maintains contact with the workers in the confined space AT ALL TIMES. Visual and verbal contact is preferred but not always possible. If visual and verbal contact can't be maintained, an alternate means of communication must be established. Methods such as hand and arm signals must be discussed and agreed upon before entry.
b. Cease operations if contact is lost, and if contact can't be reestablished immediately call the Fire Department and Entry Supervisor.
c. Not leave your post for any reason unless a trained attendant who is listed on the Entry Permit replaces you. That means no leaving for bathroom breaks, getting a drink of water, or to talk to a friend, superior, or subordinate for any reason or length of time. The minute you walk away is the minute you just killed the worker in the confined space.
d. Watch the workers for signs of distress or unusual activity, and if noted recall them from the confined space. If they collapse or are otherwise unable to leave, immediately call the Fire Department for rescue services.

e. NEVER, NEVER, NEVER enter the confined space yourself or allow anyone else to enter except the Fire Department. More would-be rescuers die every year than the original victims.

4.14.10 - PERMIT-REQUIRED CONFINED SPACE ENTRY PROCEDURES

a. The following procedures shall be observed under any of the following conditions:

(1) Testing demonstrates the existence of dangerous or deficient conditions and additional ventilation cannot reduce concentrations to safe levels.

(2) The atmosphere tests as safe but unsafe conditions can reasonably be expected to develop.

(3) It is not feasible to provide for ready exit from spaces equipped with automatic fire suppression systems and it is not practical or safe to deactivate such systems.

(4) An emergency exists and it is not feasible to wait for pre-entry procedures to take effect.

b. All personnel must be trained. Any person entering the space shall wear a self-contained breathing apparatus. At least one worker (the attendant) shall stand by the outside of the space, ready to give assistance in case of emergency. The attendant shall have a self-contained breathing apparatus available for immediate use. There shall be at least one additional worker within sight or call of the attendant. Continuous communications shall be maintained between the worker within the confined space and attendant.

c. If at any time there is any questionable action or non-movement by the worker inside, a verbal check will be made. If there is no response, the worker will be recalled immediately. Exception: If the worker is disabled due to falling or impact, they shall not be removed from the confined space unless there is immediate danger to their life. Local fire department rescue personnel shall be notified immediately.

d. The attendant may only enter the confined space in case of an emergency (wearing the self contained breathing apparatus) and only after being relieved by another trained attendant.

e. All workers entering the space shall use a safety belt or harness with attached lifeline, (unless the lifeline is a hazard) with the free end of the line secured outside the entry opening. The attendant shall attempt to remove a disabled worker via his lifeline before entering the space.

f. When practical, these spaces shall be entered through side openings -- those within 3 1/2 feet (1.07 m) of the bottom. When entry must be through a top opening, the safety belt shall be of the harness type that suspends a person upright and a hoisting device or similar apparatus shall be available for lifting workers out of the space.

g. In any situation where their use may endanger the worker, use of a hoisting device or safety belt and attached lifeline may be discontinued.

h. When dangerous air contamination is attributable to flammable and/or explosive substances, lighting and electrical equipment shall be Class 1, Division 1 rated per National Electrical Code and no ignition sources shall be introduced into the area.

i. Rescue: Call **6111** the fire department for rescue. Where immediate hazards to injured personnel are present, workers at the site shall implement emergency procedures to fit the situation. Personnel safety is paramount. REMEMBER, more would-be rescuers are killed than original victims.

4.14.11 - TAB A (CONFINED SPACE ENTRY PERMIT)

PERMIT VALID FOR 8 HOURS ONLY. ALL COPIES OF PERMIT WILL REMAIN AT JOB SITE UNTIL JOB IS COMPLETED

Date and Time Issued: _____ Date and Time Expires: _____
Job site/Space I.D.: _____ Job Supervisor:_____
Equipment to be worked on: _____ Work to be performed: _____
Stand-by personnel: _____, _____, _____

1. Atmospheric Checks:
Time: _____ Oxygen: _____% Explosive: _____% L.F.L. Toxic: _____PPM
2. Tester's signature: _____
(Industrial Hygiene only)

3. Source isolation (No Entry):	N/A	Yes	No
Pumps or lines blinded,	( )	( )	( )
disconnected, or blocked	( )	( )	( )

4. Ventilation Modification:	N/A	Yes	No
Mechanical	( )	( )	( )
Natural Ventilation only	( )	( )	( )

5. Atmospheric check after work interruption or isolation and ventilation:
Oxygen _____% > 19.5 %
Explosive _____% L.F.L < 10 %
Toxic _____PPM < 10 PPM H(2)S
Time _____
Tester's signature: _____
(Industrial Hygiene only)
6. Communication procedures: _____
_____
_____
7. Rescue procedures: _____
_____
_____
_____

8. Entry, standby, and back up persons:	Yes	No
Completed required training……	( )	( )
Is it current……...	( )	( )

EMERGENCY PHONE NUMBERS: FIRE DEPARTMENT/AMBULANCE/POLICE 6111

Tab A (Confined Space Entry Permit - Continuation)

9. Equipment:	N/A	Yes	No
Direct reading gas monitor tested……..( )		( )	( )
Safety harnesses and lifelines			
for entry and standby persons……....( )		( )	( )
Hoisting equipment ……..( )		( )	( )
Powered communications……...( )		( )	( )
SCBAs for entry and standby			
Persons……..( )		( )	( )
Protective Clothing……...( )		( )	( )
All electric equipment listed			
Class I, Division I, Group D			

and Non-sparking tools……( ) ( ) ( )

10. Periodic atmospheric tests:

Oxygen ____% Time ____ Oxygen ____% Time ____
Oxygen ____% Time ____ Oxygen ____% Time ____
Explosive ____% Time ____ Explosive ____% Time ____
Explosive ____% Time ____ Explosive ____% Time ____
Toxic ____% Time ____ Toxic ____% Time ____
Toxic ____% Time ____ Toxic ____% Time ____

We have reviewed the work authorized by this permit and the information contained here-in. Written instructions and safety procedures have been received and are understood. Entry cannot be approved if any squares are marked in the "No" column. This permit is not valid unless all appropriate items are completed.

Permit Prepared By: (Supervisor)_____

Approved By: (Entry Supervisor)_____

Reviewed By (Safety Personnel) :

_____ _____

(printed name) (signature)

This permit to be kept at job site. Return job site copy to Safety Officer following job completion.

Copies: 1 Original (Safety Officer file copy) 1 copy (Shop file copy)

EMERGENCY PHONE NUMBERS: FIRE DEPARTMENT/AMBULANCE/POLICE 6111

4.14.12 - TAB B (CONFINED SPACE ENTRY PERMIT – FUEL CELL)

PERMIT VALID FOR 10 HOURS ONLY. ALL COPIES OF PERMIT WILL REMAIN AT JOB SITE UNTIL JOB IS COMPLETED

Date and Time Issued: _____ Date and Time Expires: _____

Job site/Aircraft I.D.: _____ Job Supervisor:_____

Stand-by personnel: _____,_____,_____

1. Communication procedures: ___Verbal_____

_____

2. Rescue procedures: ___Entrant not to fully enter cell.

_____

_____

3. Entry, standby, and back up persons:	Yes	No
Successfully completed required training……..	. ( )	( )
Is it current……	( )	( )

4. Equipment:	N/A	Yes	No
Direct reading gas monitor tested……	( )	( )	( )
Safety harnesses and lifelines for entry and standby persons ……	( )	( )	( )
Hoisting equipment……	( )	( )	( )
Powered communications……	( )	( )	( )
SCBAs for entry and standby persons……	( )	( )	( )
Protective Clothing……	( )	( )	( )
All electric equipment listed Class I, Division I, Group D and Non-sparking tools ……	( )	( )	( )

Tab B (Confined Space Entry Permit – Fuel Cell Continuation)

We have reviewed the work authorized by this permit and the information contained here-in. Written instructions and safety procedures have been received and are understood. Entry cannot be approved if any squares are marked in the "No" column. This permit is not valid unless all appropriate items are completed.

Permit Prepared By: (Supervisor)_____

Approved By: (Entry Supervisor)_____

Reviewed By (Safety Personnel) :

_____ _____

(printed name) (signature)

This permit to be kept at job site.

Copies: 1 Original (Safety Officer file copy)

1 copy (Shop file copy)

EMERGENCY PHONE NUMBERS: FIRE DEPARTMENT/AMBULANCE/POLICE 61111

4.15 - QUALITY CONTROL

4.15.1 - PURPOSE

Technical inspection is the commander's system of checks and balances, which ensures the highest-quality maintenance effort as well as the following:
a. Ensure that all maintenance accomplished is up to the established standards set forth by applicable regulations and the maintenance officer.
b. To distribute and disseminate information that pertains to maintenance practices and to safety of personnel and equipment.
c. To ensure that all technical publications, forms and records, and files are maintained IAW established requirements.
d. To ensure that all requirements of applicable technical bulletins are met and required entries are made on applicable DA forms.
e. Investigate any material or workmanship deficiency that occurs on a continuing basis and then begins corrective action utilizing EIRs and QDRs.
f. To ensure that all aircraft are entered in the Army Oil Analysis Program (AOAP) and required records are maintained.
g. Obtains and records the history recorder readings for all GE T700 engines.
h. Responsible for duties outlined in FM 3-04.500 (FM 1-500).

4.15.2 - GENERAL

a. The quality control section will review the aircraft historical records as required to maintain uniform entries and format for easier review and control.
b. Copies of locally reproduced worksheets will be maintained in the QC section office.

4.15.3 - RESPONSIBILITIES

a. The technical inspector is responsible to the quality control (QC) officer, the QC noncommissioned officer in charge (NCOIC), and ultimately, the facility commander.
b. Inspectors are under the operational control, not supervision of the maintenance officer.
c. The maintenance officer establishes priorities for inspector work assignments but does not supervise the work.
d. The QC Officer or the NCOIC distributes the work and supervises the inspectors to meet the maintenance officer's assignments.

4.15.4 - MWO, TB & SAFETY MESSAGES

a. It is the responsibility of the QC section to ensure that all safety messages are received.
b. The QC section will review the safety message for its applicability and make distribution.
c. The QC section will initiate an advisory to the maintenance officer as to what is affected and to what extent. The maintenance officer will then confer with the parties affected, maintenance supervisor, QC, allied shops, etc, as to what action is to be taken.
d. The QC section will maintain a message file by aircraft type and a file for miscellaneous messages that pertain to our operation. The QC section will also make a copy of all safety messages for all units that are supported by the facility.
e. When a safety message requires an entry on the DA Form 2408-13-1 or other forms, the QC section will determine the verbiage required and enter it on those applicable forms that the message affects.

4.15.5 - MODIFICATION WORK ORDERS (MWO):

a. Upon receipt of an MWO the QC section will determine what equipment (by serial number) that the MWO is applicable to.
b. The QC section will ensure that the appropriate historical records are annotated IAW the MWO and DA Pam 738-751.

4.15.6 - TECHNICAL BULLETINS (TB)

The procedures set forth for safety messages above and Tab G will apply.

4.15.7 - EQUIPMENT IMPROVEMENT REPORT (EIR) AND QUALITY DEFICIENCY REPORT (QDR)

All EIRs and QDRs will be prepared, controlled and reported IAW Tab F of this SOP.

4.15.8 - REQUEST FOR INSPECTIONS

a. Aircraft or components requiring inspection will be called for by the supervisor of or the mechanic responsible for doing the work.
b. Priorities of inspection will be:
(1) Inspections of aircraft ready for flight.
(2) Final inspections on aircraft ready for test flights.
(3) Final inspections as outlined in the phase/PM procedures of Tab D.
(4) Directed or requested in-progress inspections on aircraft or components.
(5) Initial or SOF inspections on aircraft on work order.
(6) Acceptance or transfer inspections (See Tab C and E).
(7) Shop safety inspections.
(8) Clerical type functions (QDRs, 2028s, 2410s, etc).

4.15.9 - INSPECTION OF AIRCRAFT AND COMPONENTS

a. Acceptance inspections of newly assigned aircraft will be accomplished IAW information contained in TM 1-1500-328-23 and the checklist outlined in Tab C.
b. Transfer inspections will be accomplished IAW TM 1-1500-328-23 and the checklist in Tab E.
c. In-progress inspections of work on components performed by any of the allied shops will be conducted as required and before final assembly and completion of repair, as noted on the DA Form 2408-13-2.

4.15.10 - TECHNICAL PUBLICATIONS

a. The QC section will establish and maintain a complete, up-to-date set of all technical publications that apply to the aircraft and equipment being supported.
b. The QC section will ensure that complete and current publications are in the master file and will review the technical publication file quarterly. At this time, pinpoint distribution requirements will be reviewed and updated twice annually.
c. Ordering of technical publications: The QC section will determine the requirements for new publications, re-supply of existing publications and changes to publications. Sub account holders will turn in requests for publications using Annex A-16 (Publications Request). The publications NCO will review each requested publication for most current status and availability using the DA Pam 25-30E before submitting the request to USAPA. All local forms, NGR, CAL Regs, and FORSCOM publication requisitions shall be requested through the state AG Publications Center IAW CAL ARNG Form 25-30 series request forms. Address:

Publications Center
2814 B St.
Sacramento, CA 95816-3214

d. Receipt of new publications, replacement publications, changes to publications will be done by the QC section and broken down as follows:

(1) Publications NCO shall track and record the receipt of all requested publications utilizing the 180 day cram report. This report is a consolidated list of all publications that have been ordered for the unit's account. Once the publication is received it will be crossed off the list. A new cram report will be printed, via the internet, and updated after each order has been reviewed by USAPA.

(2) QC section will distribute the new publication and the changes that are received by utilizing the local sub-accounts established for all sections. QC will also post the new publications and changes to the master file.

(3) Allied Shop section will receive the appropriate publications and changes for their shops through the Allied Shop supervisor.

(4) The aircraft repair mechanic's will receive the appropriate publications and changes for the hangar technical publications reference file, through their supervisor.

(5) Tech supply will receive the appropriate publications and changes for their technical file from the QC section.

4.15.11 - ROUTING OF INFORMATION FROM THE QC SECTION

a. Normal, non-urgent messages will be routed from QC to the sections concerned:

(1) QC Requests inspection of aircraft and components.

(2) QC interprets publications.

(3) QC distributes publications and changes to publications.

(4) Procedures for TBs and Safety Messages are listed in Tab G.

b. Normal routing to QC from the other sections concerned:

(1) Request for inspections of aircraft and components.

(2) Notification of compliance with normal MWOs, TBs and safety messages.

(3) Information from an individual that should be sent out to other sections.

(4) Problems not yet safety of flight condition that could affect other aircraft.

c. Urgent message routing will be routed from QC to the sections concerned:

(1) Safety of flight (SOF) conditions found on a flyable aircraft.

(2) SOF MWOs, TBs, safety messages and phone calls.

(3) SOF conditions which might affect more than one aircraft.

(4) Any condition which might affect the safety of personnel or equipment.

(5) Procedures for TBs and Safety Messages are listed in Tab G.

d. Urgent routing to QC section from other sections:

(1) Notification of compliance with urgent action MWOs, TBs and safety messages.

(2) SOF conditions found on a flyable aircraft.

(3) SOF conditions which might affect more than one aircraft.

(4) Any condition which might affect the safety of personnel and equipment.

e. When a known or suspected safety of flight condition exists, the individual who found the condition will immediately notify the supervisor who in turn will notify the QC section.

4.15.12 - CALIBRATION

a. Purpose: To establish procedures that will ensure calibration of tools and equipment used on aircraft and components at this facility.

b. Calibration intervals are established by TM 43-180, CAL ARNG State Maintenance Manual and as directed by the Long Beach CSMS.

c. Forms and Records:

(1) DA Label 80 will be attached to all calibrated items by the calibration specialist and will not be removed at any time. Any item without a valid DA Label 80 will not be used. It will be tagged with DD

Form 1574 as unserviceable and returned to the supply tool room or the calibration NCO whichever is applicable.

(2) DA Form 2402 will be used when turning in items for calibration and will be completed by the person turning in the item. Copy #1 will be returned to the user as a receipt.

(3) NGB Form 2417 will be used when turning in items for calibration and will be completed by the calibration technician.

(4) DD Form 1577-2 (green tag) will be used for any item found to be defective, broken, dropped or out of calibration. The tag will be completed by the user and attached to the item in question.

d. On a monthly basis the TMDE coordinator will pick up tools and test sets that require calibration and prepare the items for turn-in to the proper facility.

4.15.13 - WEIGHT AND BALANCE

a. The weight and balance records will be generated using the automated Edwards Weight and Balance program.

b. The QC section is responsible for maintaining the aircraft's weight and balance records. Maintenance personnel must coordinate with the weight and balance technician anytime that maintenance performed on the aircraft could affect weight and balance. Weight and Balance will be accomplished IAW AR 95-1, DA Pam 738-751, TM-55-1500-342-23 and appropriate aircraft TM.

4.15.14 - CONTROLLED EXCHANGE

a. Controlled exchange will be conducted IAW AR 750-1, TM 1-1500-328-23, FM 3-04.500(1-500) and local policies.

b. Only the facility commander, or his designated representatives, are authorized to use controlled substitution procedures. **The primary designee will be the Production Control Officer in his absence the WS-10 Aircraft Mechanic Supervisor and in his absence the Maintenance Officer**. It will be accomplished only when all provisions of AR 750-1 and the following conditions are met:

(1) The exchange is the only means of eliminating an adverse effect on the operational mission of the unit.

(2) The aircraft or major component from which the item is removed is NMCS.

(3) The removal and replacement is accomplished by the authorized level of maintenance IAW the published maintenance allocation chart.

(4) The Annex A-1 (Controlled Exchange Worksheet) when completed will be signed by the facility commander, or the designated representative, reproduced in triplicate and distributed as follows:

(a) Losing aircraft flight packet

(b) Controlled substitution folder in Production Control office and kept for at least one year

(c) Gaining aircraft flight packet

(5) All parts, components or assemblies removed will be inspected by a qualified inspector prior to exchange to insure serviceability.

(6) When an item is transferred from one aircraft to another adjustments on DA Form 2408-16 will be made IAW DA Pam 738-751 for both aircraft when required.

(7) For items that are to be locally condemned or returned to supply through maintenance, the initiation of a DA Form 2410 will be conducted IAW 738-751.

(8) All controlled exchanges will be tracked in Production Control by entering the action in Annex A-2 (Controlled Exchange Log) and kept for at least one year.

(9) Tech supply personnel have determined that the item is no in stock by initialing the Controlled Exchange Worksheet.

4.15.15 - SHOP INSPECTIONS

Periodic shop inspections will be performed IAW AR 1-201, AR 385-10, FM 3-04.500 (FM 1-500) AND TM 55-1500-204-25 utilizing the Quality Control Shop Inspection Checklist located in QC. Each shop will be cycled 2 times annually.

4.15.16 - NEW PARTS INSTALLATION

The New Parts Installation Work Sheet Annex A-3 (New Parts Installation) will be initiated for all new parts or components installed on aircraft. This form is used to insure that QC receives the necessary documents that come with items that are tracked in the applicable (-23 series TM) and TB 1-1500-341-01. The Mechanic initials this form and routing procedures are outlined at the top of the form. The Mechanic Supervisor shall ensure the all blocks of this form are completed and accurate before it arrives to the QC Shop.

4.15.17 - TAB A (SAFETY WIRING & COTTER PINS)

a. Safety wiring that is required by the applicable aircraft maintenance manuals will be installed IAW TM 55-l500-204-23-1 through 10 and MIL Std 33540.

b. Safeties that are required by the applicable aircraft maintenance manuals will be installed prior to operation and/or flight of the aircraft. When a safety must be removed for the adjustment of a component during operation of the aircraft, the safety will be installed after the adjustment is satisfactorily completed before flight.

c. Additional safeties:

(1) Quick Disconnect Type Clamps. Any type of clamp that uses a "slotted barrel" that can rotate or a "quick coupler latch" to facilitate in the removal of the clamp or components shall have the quick disconnect release mechanism safeties to prevent it from operating.

(2) "T" Bolt Clamps. Any "T" bolt clamp not employing any form of a quick release mechanism shall be safetied.

(3) Engine Mount Retention Caps to Pillow Blocks. On the T53 engine, the safety wire will start at the trunnion bolt going to the bearing cap, wrapped around the cap and ending at the cap's retention bolt with a pigtail securing the retention bolt's nut.

(4) Electrical Connectors on Instruments. All electrical connector plugs will be safetied. Do not safety connectors that have a mechanical locking feature.

(5) OH-58 starter generator clamp must be safetied in an "X" type safety ending around the top of the nut.

(6) UH-1 forward engine V-band clamp must be safety in an "X" type safety ending around the top of the nut.

d. When cotter pins are installed in castellated nuts, cotter pins will be tailed into the appropriate nut so as not to catch on skin or clothing.

4.15.18 - TAB B (SLIPPAGE MARKS)

a. Slippage marks that are required by the applicable aircraft maintenance manual will be installed prior to flight of the aircraft.
b. All slippage marks that are applied will be done in a neat and orderly manner. Material that is used for slippage marks will be kept to a minimum amount but of sufficient amount to make the slippage mark functional.
c. When new slippage marks are applied, the previous slippage marks will be removed to prevent any confusion.
d. Material that is used for the slippage mark will be IAW the applicable maintenance manuals. If none is specified, then it may be Inspector's Anti-sabotage Lacquer of a commercial product known under the name "TORQUE SEAL".
e. Additional slippage marks should be cleared with the QC Section before being applied.
f. All round aircraft gages that have range markings on the glass must have a white slippage mark from the gage housing to the glass. Slippage marks will be placed on the nuts of the Flex Coupling Clamp and hanger bearings of the UH-1H/V aircraft assigned to this Facility. OH-58A aircraft must have slippage marks on the tail boom attachment nuts, tail rotor gearbox attachment nuts, main rotor blade grip nuts, main rotor pillow block bolts and nuts, dual slippage marks on each servo pilot valve.
g. The placement of the slippage mark will start on the bolt end and continue across the nut to the clamp body.
h. If there is evidence of slippage mark deterioration without evidence of bolt and or nut movement, then reapply slippage mark. (No Red X required)

4.15.19 - TAB C (ACCEPTANCE INSPECTION)

a. Review the weight and balance records. After insuring that the weight and balance records are up-to-date, they shall be turned over to the Weight and Balance Technician.
b. Review the inventory records: Check that a DA Form 2408-17 inventory has been performed and is IAW DA Pam 738-751 and that the next inventory due date is entered on the aircraft DA Form 2408-18.
c. Review the aircraft historical records for completeness:
(1) Ensure that all current MWOs are entered on the DA Form 2408-5 and complied with.
(2) Component DA Form 2408-5 for the listing of current MWOs and TBs.
(3) Check aircraft DA Form 2408-15 and make appropriate entry indicating the date and aircraft hours at time of receipt.
(4) Check the DA Form 2408-16 for the following:
(a) For required components listed in DA Pam 738-751 and aircraft 23 manual.
(b) For correct TBO replacement time.
(c) Do a serial number check of installed TBO components and “Condition” components with the checklist.
(d) Check that the TBO items on the DA Form 2408-16 have been listed on the TBO book and are correct.
(e) Submit EIRs on all safety of flight items.
(5) Check that the engine run sheets are in the records and are by serial number correct run sheet.
(a) That an overprinted DA Form 2408-15 or 2408-19 series log is with the aircraft historical records.
(b) That a TEAC has been performed on one or both engines.
(c) That a Baseline HIT has been established.
d. Utilize TM 1-1500-328-23.

4.15.20 - TAB D (FINAL INSPECTION)

a. Check DA Form 2408-13-1 and/or phased book work sheets for:
(1) All applicable insertion requirements are complied with.
(2) All maintenance is properly signed off.
(3) All entries properly carried forward or transcribed.
b. Check DA Form 2408-13-1 series for:
(1) All entries properly entered.
(2) Correct status symbols.
(3) Entries properly carried forward.
(4) Entries properly transcribed to DA Form 2408-14.
(5) All required entries made for completion of inspection.
c. Check DA Form 2408-14 to ensure that:
(1) Entries are correctly made.
(2) Deferred maintenance entries are cleared.
(3) MWOs complied with or not complied with.
(4) Only authorized entries are made on the form.
d. Check DA Form 2408-18 to ensure that:
(1) Inspections completed have had the next inspection due time or date entered.
(2) All required inspections complied with or entered on DA Form 2408-13 series.
e. Check the TBO Printout to ensure all items due time change have been changed or placed on order.
f. Conduct of safety of flight inspection of the aircraft.
(1) Check all components that were removed and sign off Red “X “entries.
(2) Check for tools, rags, cotter pins, etc.
(3) Check each area of inspection to ensure that the work was accomplished as indicated on the inspection work sheet.
g. Sign off final inspection on aircraft forms.
h. Ensure historical records are current, to include the following:
(1) 2408-5 Record of Modification
(2) 2408-15 Historical Record
(3) 2408-16 Aircraft Components, Sub-Components
(4) 2408-17 Record of Inventory
(5) 2408-19 Engine Historical Analysis
(6) 2408-20 Record of Oil Analysis
(7) Local and other required forms IAW DA Pam 738-751.
i. Ensure the following are current and on board aircraft:
(1) Operators Manual
(2) PMD, PMS, or PMI
(3) Pilots Checklist
(4) 365 Series Weight and Balance

4.15.21 - TAB E (TRANSFER INSPECTION)

a. Check to ensure that the standards of serviceability for transfer of aircraft are met IAW TM 1-1500-328-23.
b. Historical Log Book:
(1) Check the historical logbook to ensure that all required forms and records are in the logbook.
(2) Make an entry on the aircraft DA Form 2408-15 reflecting the transfer of the aircraft from this facility to the receiving facility.
(3) Check the DA Form 2408-17 to ensure that an inventory has been completed.
c. Transfer DA Form 2408-13 series from the 6-month file.
d. TBO Book: Ensure that no items will be overflown while transfer is in place.
e. Forms and records to be sent with the aircraft are:
(1) Historical Record Log Book (Should be mailed or sent in another aircraft)
(2) Weight and Balance Records and 2408-20s.
(3) Prepare transfer form IAW DA Pam 738-751.
(4) Six month file

4.15.22 - TAB F (EIR & QDR)

a. EIRs/QDRs will be prepared and controlled IAW DA Pam 738-751.
b. EIR Submission (normal). EIRs/QDRs will be prepared and submitted by the Quality Control Section IAW DA Pam 738-751.
c. EIR/QDR Exhibits (normal).
(1) The item that the EIR/QDR is being submitted on will be marked as an EIR/QDR EXHIBIT IAW DA Pam 738-751.
(2) Supply will designate and mark the exhibit holding area.
(3) Supply will be responsible for marking the exhibit and placing it in the holding area.
d. A file for holding the EIR/QDR will be maintained in the Quality Control Office. A copy of the EIR/QDR will be retained until an acknowledgement letter is received from AVSCOM.
e. An annual file will be maintained in the Quality Control Office for EIRs.
(1) Upon receipt of the letter of acknowledgement, the organization copy of the EIR/QDR will be removed from the holding file and will be placed in the suspense file, where it will be retained for 45 days IAW DA Pam 738-751.
(2) If disposition instructions are not received within 60 days, the exhibit will be turned IAW DA Pam 738-751 and current applicable supply procedures.
f. A holding file for disposition of EIRs/QDRs will be maintained in the Quality Control Office.
(1) An EIR/QDR will be placed in this file at the end of the 30-day retention period awaiting disposition instruction from USPFO.
(2) Upon receipt of holding or disposition instructions from higher headquarters, the EIR/QDR will be placed in this file awaiting further instructions on items under a hold status or awaiting a GBL from USPFO.
g. A file for completed action EIR/QDR will be maintained in the QC Office and held IAW DA Pam 738-751.

4.15.23 - TAB G (TB & TWX)

a. Quality Control Section upon receipt of a normal TB/TWX will:

(1) Determine the applicability to assigned aircraft or equipment.

(2) Enter the TWX/TB number and title onto the TB section of the 2408-15 and message index card file.

(3) Notify the Aircraft Mechanic Supervisor and/or Allied Shop Supervisor of the TB/TWX requirements and the entry to be made on the DA Form 2408-13 series of the affected equipment.

(4) Send an information copy of the TB/TWX to the Maintenance and Operations Officer.

(5) Ensure that the TB/TWX compliance data has been forwarded to the compliance officer.

(6) Enter the compliance data into the historical records of the affected equipment.

b. Upon receipt of a Technical Bulletins (TB) or TWXs (Urgent, Safety of Flight, or Safety of Flight Advisory) the Quality Control Section will:

(1) Immediately determine which aircraft or items of equipment are affected.

(2) Determine if the TB/TWX immediately grounds the affected aircraft. If aircraft is grounded, flight operations, maintenance supervisor, and aircraft mechanic supervisor will be notified of the condition.

(3) When a TB/TWX has limitations, the limitations will be determined and how the limitations affect the effected aircraft and/or equipment. The maintenance officer, aircraft mechanic supervisor, and flight operations will be notified of the limitations and the affected aircraft.

(4) Enter the TWX/TB number and title onto the TB section of the DA Form 2408-15 and file one copy of the TB/TWX in the technical publications file or TWX file.

(5) Enter compliance data onto the 2408-15.

(6) Ensure that the TB/TWX compliance data is forwarded to NGB SOF Officer.

4.15.24 - TAB H (AOAP)

a. Oil Sample Procedures: Procedures outlined in TB 43-0106 will be followed for taking and processing oil samples with the following procedures:

(1) Upon taking a sample, the individual will complete the oil sample label, attach the label to the sample bottle, annotate the aircraft logbook and turn in the sample with completed label to the Quality Control office.

(2) The technical inspectors will then process the sample based on information from the oil sample label onto DA Form 2408-20. Initiate the DA Form 2026 and mail the sample to the Ft Lewis Oil Lab.

(3) The aircraft mechanic supervisor will notify the technical inspectors at times when components requiring oil samples are changed so that the spectrometric oil sample log may be updated.

b. Lab Requests or Special Oil Samples.

(1) Ft Lewis Oil Lab will notify the QC Section of any abnormal sample results and state guidelines on what procedures to take. For example; Drain and Flush, Resample After 1st Flight.

(2) The Quality Control Section will notify the Aircraft Mechanic Supervisor of the Lab Request and make a notation on the Aircraft Component DA Form 2408-20. They will also initial a special oil sample slip and forward it to the foreman.

(3) The Aircraft Mechanic Supervisor will notify the aircraft mechanic and he will make the notations on the aircraft's DA Form 2408-13 series and follow the procedures requested by the Oil Lab.

(4) The aircraft mechanic will follow the procedures in paragraph 2a above for oil samples and have that sample delivered to the Quality Control Section immediately so that the QC Section can processed the sample and have it in the mail prior to l500 hrs.

(5) In the event of a Special Oil Sample, i.e., new engine, the same procedures in para 3d will be followed.

(6) ODDS system aircraft oil samples will be conducted IAW UH-1-95-ASAM-03 and -05.

(7) AOAP ADDRESS: DIRECTOR OF LOGISTICS
ATTN: AFZH-DSP-O, BOX 339500 MS 18
BLDG 9500 DOOR #12
FORT LEWIS, WA 98433-9500

TAB I (CPC)

a. Purpose: To establish and maintain an effective Corrosion Prevention and Control (CPC) Program.

b. Responsibilities:

(1) The maintenance officer will integrate CPC program awareness into all levels of maintenance. Specifically commanders will insure:

(a) CPC Program responsibilities are delegated to the CPC program monitor, the Quality Control Section, and Technical Inspectors.

(b) All personnel are aware of and comply with the Facility's CPC SOP.

(c) A training program is established to achieve Corrosion Prevention and Control inspection, detection and treatment proficiency, and all maintenance levels.

(d) Approved recommendations for aviation CPC improvements are implemented immediately.

(e) Aviation CPC requirements are continuously reviewed for effectiveness based on the operational environment of equipment under their control.

(2) The designated CPC Program Monitor will, working with maintenance personnel, advise the maintenance officer on all CPC matters and findings. His duties are as follows:

(a) Observe inspection and maintenance operations and assure that the proper status symbols are annotated on the DA Form 2408-13-1 when corrosion is discovered. The status symbol to be utilized will depend on the degree of corrosion, location and limits allowable for the area per applicable TM. Corrective action (treatment/repair) to prevent further deterioration shall be taken as soon as possible. When a corrosion defect (red diagonal /) is not corrected (Treatment/repair) within 28 days from the date discovery, the aircraft will be reported as not mission capable maintenance (NMCM) or not mission capable supply (NMCS)(whichever applies), until corrective action has been applied. Aircraft will be scheduled for CPC inspections on a 90-calendar day frequency or other calendar day interval, as stated in the applicable system Technical Manual. The DA Form 2408-18 for the aircraft will be used to record inspection frequency.

(b) Maintain current reference files for aviation CPC literature, to include TM 55-1500-343-23 and TM 55-1500-344-23, Corrosion Control for Army Aircraft.

(c) Monitor techniques and proficiency of maintenance personnel ion handling inspections for corrosion and prompt corrective action.

(d) Aviation associated equipment (GSE & ALSE) will be scheduled for CPC inspection on a frequency of 180 days per TM 1-1500-328-23 and as stated in the applicable TM for the item. More frequent inspections may be required, based on the operational environment of the equipment.

(e) Refers to TM 1-1500-343-23 and TM 55-1500-344-23 or the applicable aircraft technical manual for limits criteria, repair and/or treatment of all corrosion detected, no matter how minor.

c. Inspection Intervals will be annotated on aircraft DA Form 2408-18 and accomplished IAW the appropriate technical manual(s).

d. Aircraft cleaning will be done every 30 days by washing aircraft IAW TM 1-1500-344-23.

e. Cleaning or wiping down of all exposed unpainted surfaces, such as main rotor flight controls, main rotor mast, etc. will be accomplished during PMD or PMS-1 inspections IAW the appropriate PMD/PMS checklist.

f. Every 90 days, the CPC inspection will be performed on the aircraft utilizing the appropriate PMD/PMS-1 checklist and will include the following items:

(1) Keep compartment drain holes open.

(2) Inspection, removal, and re-application of preservation compounds on a scheduled basis.

(3) Earliest detection and repair of damaged protective coatings.

g. Immediate cleaning: Affected areas must be cleaned immediately if:

(1) Spilled electrolyte and corrosive deposits are found around battery terminals and battery areas.
(2) Aircraft are exposed to corrosive fire-extinguishing materials.
(3) Salt deposits, relief tube waste, or other contaminants are apparent or exposed to salt water spray.
(4) Fungus growth is apparent.
(5) Chemical, biological, or radiological containment is detected.

h. Aircraft Washing Procedures:

(1) Only authorized cleaning compound to be used on aircraft exterior surfaces is MIL-C-43616 or MIL-85570.
(2) The universal wash unit will be used for general purpose cleaning and turbine engine cleaning.
(3) Where high outdoor temperatures are encountered (80'F and above), and where shade is not available, cleaning operations should be scheduled for early morning and late afternoon.
(4) Aircraft and/or other equipment shall not be washed, cleaned, or inspected on an outdoor wash-rack when an electrical storm in the immediate area.
(5) Aircraft shall be electrically grounded during all cleaning operations and when moored or parked.
(6) Wear rubber gloves, flexible fitting goggles or face shield, protective wet weather clothing where necessary, and water resistant boots during cleaning operations using cleaning compounds MIL-C-43616 or MIL-C-85570.
(7) Steam cleaners shall not be used for cleaning aircraft or components.
(8) Do not wash or rinse aircraft with a solid stream of water, Use a soft, spray pattern to avoid damaging fragile sections or causing water intrusion.
(9) Water must not be directed at pitot tubes, static ports, vents, etc. After wash is completed, the drain caps on the pitot/static system will be removes for inspection of moisture.
(10) Do not use cleaning compounds at higher concentrations that those recommended.
(11) Do not allow cleaning solutions to dry on aircraft surfaces. This could cause streaking and can damage aircraft finished and components.
(12) Re-lubricate all fittings and other lube points in areas to which cleaning compounds have been applied.
(13) Rinse aircraft surfaces where necessary to reduce skin temperature.
(14) To prevent streaking, start at the lower surfaces, working upward and out.
(15) For aircraft with bookmarks, smudges, and ground in dirt use MIL-C-85570 Type IV.
(16) Ensure that all areas accumulating water have been drained.

i. Treatment of Specific Areas:

(1) Fraying surface (common surface between mating parts) joints and seams. When repairs are made on equipment or accessories and components are installed or structures are re-installed, the attaching or fraying surfaces shall be protected by sealing all metal to metal contacts and composite material to metal contacts. All permanent structure shall be installed with fraying surfaces coated with MIL-S-81733 sealant. All removable structure or components shall be installed with fraying surfaces coated with MIL-S-8784 or MIL-S-8802.
(2) Attaching parts, such as nuts, washers, screws, bolts, etc. that are not removed frequently for maintenance requirements shall be chemically treated if possible.
(3) Close tolerance bolts and parts removed frequently for maintenance requirements shall be coated with corrosion inhibiting compound MIL-C-16173 or MIL-L-46147. Bolts shall be coated on shanks and threads only.
(4) When aluminum rivets other than those made from 5056 aluminum are used, they shall be sent in wet zinc chromate primer. All fraying surfaces will be given two coats of zinc chromate primer, and all rivets will be primed after driving, When magnesium alloys are assembled in contact with

dissimilar metals, each fraying surface will be primed with zinc chromate primer and the two surfaces insulated with a sealing compound. Before painting any riveted structure, those areas that have had the chemical surface treatment removed will be brushed with chrome-pickle solution in accordance with military Specification MIL-M-3171. All new magnesium sheet metal repairs will be treated with chromic acid solution.

(5) Brayco 599 will not be added to wet oil systems to prevent corrosion and moisture build up.

j. Removal, Storage and Shipment of Parts:

(1) Short term storage (45 days or less). When assemblies or parts are removed from the aircraft for repair or to gain access to areas of the aircraft for maintenance, they shall be treated to prevent corrosion prior to placement in short term storage. All items shall be stored in a covered area to protect them from the outside environment and properly labeled with aircraft tail number. Assemblies or parts having bare metal surfaces shall be properly lubricated with aircraft greases or oils normally applied in service. CPC shall not be used for lubrication in lieu of the appropriate lubricant specified for use on a particular part or assembly.

(2) Prolonged storage (exceeding 45 days). All bare metal surfaces shall be coated with MIL-C-16173, Grade 4 CPC. Consult applicable maintenance manual for specific details on storage of a particular assembly or part.

(3) Shipment of serviceable and reparable parts. Clean all parts with dry cleaning solvent PD-680. Air dry or wipe with a clean lint free cloth. Cap or plug all lines, as applicable, in accordance with Technical Manuals. Secure all loose items as required to prevent damage during shipment, Apply corrosion preventive compound MIL-C-15173 to all exterior bare metal surfaces including splines, studs, and threaded areas. Preserve gearboxes, transmission, and engines in accordance with Technical Manuals. Before closing container, a Technical Inspector must inspect the part for proper preservation.

4.16 - ULLS-A

4.16.1 - PURPOSE

To establish policies and procedures to assist unit personnel in the daily operation and maintenance of the ULLS-A system.

4.16.2 - SCOPE

The policies and procedures outlined in the SOP have been selected to supplement those contained in the ULLS-A End User Manual (EM).

4.16.3 - DEFINITIONS

a. ULLS-A: A microcomputer based system developed by the U.S. Army combined arms support Command (USACASCOM) and the U.S. Army Information System Software Development Center Lee (USAISSDCL) at Fort Lee, VA. To automate the aircraft maintenance, class IX supply, operations, material readiness reporting, and historical records in Army Aviation Units.
b. ULLS-A Administrator: An individual appointed by the commander to provide assistance and guidance to users in the daily operation, and maintenance of the ULLS-A system. Also serves as the commander's principal advisor in all system matters, and as the unit point of contact for all system problems or changes (hardware and software).
c. LAN: Local Area Network. Establishes a hardwire link between computers in Production Control, Quality Control, and Technical Supply to permit the use of a shared database.
d. MS-DOS: Microsoft Disk Operating System.

4.16.4 - REFERENCES

Commanders Guide ULLS-A
ULLS-A End Users Manual (EM)
ULLS-A System Support Manual
AR 25-400-2 The Modern Army Records Keeping System (MARKS)
AR 380-19 Information System Security
AR 700-138 Army Logistics Readiness and Sustainability
DA Pam 738-750 The Army Maintenance Management System (TAMMS)
DA Pam 738-751 The Army Maintenance Management System - Aviation (TAMMS-A)

4.16.5 - GENERAL

This section provides guidance for the assignment of responsibilities associated with the operation and maintenance of ULLS-A. For ease of data entry the ULLS-A date format shall be used on all flight pack forms (yyyymmdd).

4.16.6 - DESCRIPTION OF DUTIES

a. Commander
(1) Appoint an individual on orders to perform additional duties as the ULLS-A administrator and assistant administrator.
(2) Ensures that the ULLS-A administrator assigns user identification codes (IDs) and passwords for each individual/operator with a need for access to ULLS-A which will grant access to each ULLS-A process based on the needs of the individual operator in the daily performance of their duties.
(3) Approves all high priority and high dollar requests by reviewing the Commander's Exception report on a daily basis prior to sending the Supply Transactions to the source of supply. The criteria for determining the extended value of high dollar requests will be determined by the commander and

will be entered in the Unit Parameter file. This responsibility may be delegated to a designated individual in writing.

(4) Develop procedures for continuity of operation (COOP) in the event of a situation where ULLS-A cannot be operated. This would generally be a return to manual procedures until the ULLS-A system is operational.

(5) Reviews Army Material Status System (AMSS) end of the month reports for accuracy.

b. ULLS-A Administrator:

(1) Monitor the daily administrative operation of ULLS-A throughout the unit.

(2) Keeps the commander advised on the operation of the ULLS-A system.

(3) Provide in-house assistance to ULLS-A users (both hardware and software) within capabilities.

(4) Establish and maintain a log of all system problems reports.

(5) Conducts a review of the Unit Parameter Files upon a change of command. Revises setting as necessary.

(6) Provides advice and assistance to users in the proper maintenance and storage of diskettes, PCMCIA cards, and tapes used as back-ups.

(7) Monitors the daily preventive maintenance of ULLS-A hardware. Refer to the ULLS-A End Users Manual, appendix G.

(8) Serve as the unit interface with the USAISSDCL Customer Assistance Office, Ft. Lee to obtain higher level assistance in solving problems beyond his/her capabilities.

c. ULLS-A Operators (General):

(1) At no time will any ULLS-A computer be left unattended with the system operationally accessible; after logon.

(2) At no time will operators attempt to access MS-DOS for any reason.

(3) Only diskettes provided by the Production Control Office or the ULLS-A administrators will be used in the ULLS-A systems in order to prevent the introduction of computer viruses.

d. ULLS-A Operators (Crew Chiefs/Mechanics):

(1) Responsible for ensuring daily data entries into the ULLS-A system accurately reflects the current status and condition of the aircraft at all times.

(2) Responsible for closing out flight packs and updating the aircraft logbook.

(3) Performs daily Data Transfer operations on assigns ULLS-A computers under his/her control in accordance with the procedures and schedule provided in this SOP.

(4) Performs Backup of Database files to floppy disk every Wednesday and Friday and to the hard drive daily.

(5) Performs daily ULLS-A system preventive maintenance, IAW this SOP and the End User Manual (EM), appendix G.

(6) Runs the Component and Inspection Projection Report as needed every Tuesday.

(7) Reports all system problems to the ULLS-A administrator and records problems on the log provided in the Data Transfer Binder.

e. ULLS-A Operators (Maintenance Supervisor):

(1) Monitors all daily data entry operations by subordinate crew chiefs/mechanics. Ensures all daily data transfers are completed IAW the procedures and schedule provided in this SOP.

(2) Ensures all data file backups are performed on a weekly basis.

(3) Reports all system problems to the ULLS-A administrator as soon as possible.

f. ULLS-A Operator (Production Control):

(1) Operates and maintains the file server for the LAN serving the AVUM unit operation.

(2) Receives and coordinates daily data transfers from/to flight companies in accordance with established schedules.

(3) In conjunction with the Maintenance Supervisor/Officer, conducts a review of all new/active faults and repair parts demands received during the daily data transfer. Selected faults are reported for Army material Status System (AMSS) purposes.

(4) Prepares the End of Report Period report for AMSS. As directed by the commander, performs the Enter Commander's Statement and send commander's statement processes. Prepares other AMSS reports as required by the commander.

(5) Performs Backup of Database files at the start of each day. Backup tapes should be labeled and stored IAW this SOP.

(6) Prepares unit level maintenance request for flight companies to obtain AVUM level maintenance.

(7) Prepares support level maintenance requests and performs the temporary transfer out and transfer in of aircraft records when AVIM support is required.

(8) In conjunction with the ULLS-A Administrator, loads all software change packages, and Master files updates as soon as possible after receipt.

(9) Perform daily preventive maintenance on the PC workstation and the file server, IAW this SOP and the ULLS-A End User Manual.

g. ULLS-A Operator (Quality Control):

(1) Principal operators in the quality control section will be the Technical inspectors.

(2) Maintain all aircraft historical records.

(3) Initialize all newly assigned aircraft not already on the ULLS-A system.

(4) Verify records of newly assigned aircraft that are on the ULLS-A system.

(5) Performs daily preventive maintenance on the QC workstation IAW this SOP and the ULLS-A end user manual, appendix G.

(6) Reports system problems to the ULLS-A administrator and maintains a problem log in the QC area.

(7) Monitors the AOAP results and logs all entries on the QC workstation.

(8) Verify all ASAM and SOF messages are complied with and make all necessary entries on aircraft forms and records.

h. ULLS-A Operator (Tech Supply):

(1) Perform automated functions pertaining to requests for receipt, storage, issue, and accountability for all repair parts.

(2) Keep supervisor informed of current status of parts requests and receipt of parts.

(3) Submits supply transactions to the supporting DSU/SOS weekly until method is in place for daily submission.

(4) Loads all SARSS status and/or catalogs/catalog updates as soon as possible after receipt.

(5) Performs daily preventive maintenance services IAW this SOP and the ULLS-A end user manual, appendix G.

(6) Reports system problems to the ULLS-A administrator IAW this SOP and maintains a problem log in the supply area.

4.16.7 - SYSTEM TROUBLESHOOTING

a. ULLS-A produces a series of hard copy forms/records which is, in fact, a continuation (mirror) of the manual (TAMMS) system. This allows for a rapid transition from ULLS-A to a partial or complete manual operation in the event of a failure of the ULLS-A system.

b. After system repairs are completed and ULLS-A hardware is back on line, the data files may be quickly updated and the system returned to normal operation.

Note

At no time should the non-availability/failure of ULLS-A hardware cause and degradation of flight mission performance or safety standards.

4.16.8 - PROBLEM REPORTING

a. Documentation:

(1) In the event of a hardware failure, a failure to gain ULLS-A systems access, or if the system aborts during normal data processing, contact the ULLS-A administrator immediately.

(2) The operator must make every attempt to document all problem symptoms. It is extremely important that all error messages from the computer be recorded correctly or captured by use of the print screen option. This will greatly assist the System Support personnel in problem resolution.

(3) A problem log will be maintained at each ULLS-A workstation/work area. At a minimum, this log should reflect the nature of the problem, date/time of discovery, name of operator and action taken.

b. Reporting Channels:

(1) Problems with flight company computers will be reported to the ULLS-A administrator by notifying the AVUM Production control as soon as possible.

(2) If the ULLS-A administrator is unable to solve the problem, he will request assistance from the State Coordinator or USAISSCDL, CAO, Ft. Lee, Va.

c. Software change proposals:

(1) Recommendations for changes or improvements to the system should be submitted in writing utilizing the DA Form 5005-R, Engineering Change proposal-software (ECP-S) as instructed in the end user manual. At a minimum, the change proposal will include the name, phone number and the ULLS-A administrator/point of contact within the unit, and a complete description of the recommended change.

(2) All DA form 5005-R forms will be sent to the California State coordinator at Stockton AASF, for administrative processing.

4.16.9 - GENERAL OPERATOR PROCEDURES

a. The timely flow of accurate data within the ULLS-A network is the cornerstone of the system. The most current aircraft status information will always be found at the flight company computer. Therefore, any changes in aircraft status at the company must be reported to the AVUM LAN. Likewise, any data changes at the AVUM LAN must be passed to the flight company to update the aircraft records there. This cross leveling of data between the LAN and the flight companies is accomplished through the Data Transfer process. This section outlines procedures for the processing of data and defines the flow of data in support of ULLS-A.

b. The system provides two options for transmitting data, by diskette or by telecommunications. The preferred method for this organization will be by diskette.

4.16.10 - CREWCHIEF/MECHANIC PROCEDURES

a. Data Transfer:

(1) Ensure laptop is at full battery power prior to the data transfer process.

(2) Data transfer diskettes will be provided by and returned to the PC office in the appropriate crew binders.

(3) The data transfer should be completed by the maintenance section by 1000 hours each day.

(4) Ensure transfer diskettes are properly marked as instructed in the end user manual.

(5) Laptops will be backed-up daily to hard drive and weekly using diskettes as provided by the PC office.

(6) Data transfer will be accomplished in the following sequence:

(a) Rebuild database.

(b) Receive the LAN diskette.
(c) Print Flight Pack with no printer attached.
(d) Send the flight company diskette to the LAN.

b. Logbook Procedures:

(1) Flight Pack Closeout

(a) Complete manual DA Form 2408-12 and update manual DA Form 2408-13.
(b) Enter flight information, crew data, and servicing data into the ULLS-A system.
(c) Sign off all corrected faults from the manual DA Form 2408-13-1 in ULLS-A.
(d) Enter new fault information from the manual DA Form 2408-13-1 into ULLS-A.
(e) Enter Initial's on the left margin of manual forms as new entries are entered into ULLS-A.
(f) Enter Initial's on the right margin of manual forms as entries are signed off in ULLS-A.
(g) Check and update the DA From 2408-18 items with special emphasis on updating the 14 day Run-up and 7 day PMD on both the manual forms and within ULLS-A.
(h) Fill out a new manual DA Form 2408-12 and post it to the logbook.
(i) Review and compare the previous and current flight pack to ensure all open faults were carried forward and that all inspections due have been computer generated.
(j) Old flight packs and DA Form 2408-12's will be processed through the supervisor for posting and filing in the QC office and Flight Ops.

(2) Reports: On the first day of the work week, print a DA Form 2408-18 projection report and post it in the front of the logbook. The report will be for the next 14 days and 25 flight hours.

c. Parts Demand Procedures:

(1) If the part is issued from stock, no parts demand need be entered by the CE/mechanic in ULLS-A.

(2) If the part is not on hand, the CE/mechanic will enter the demand in ULLS-A at the flight company laptop.

(3) If the CE/mechanic is at a work stoppage for the demanded part, state that in the remarks section of the parts demand screen.

(4) On or about the 1st of each month, each CE/mechanic will review the parts demand and DCR with their supervisor and accomplish the following:

(a) Make sure all demands have a valid document number, either on the parts demand or the DCR screen. If not, check with supervisor to see if the demand was processed.
(b) Delete all parts demands if the parts have been received by the CE/mechanic.
(c) Check ULLS-A for current status of all open request.

d. Work Order Request:

(1) Work request, Annex A-13 (Maintenance Request), will be submitted to the Production Control Office for each fault needing work by shop personnel within 10 Days of entry in the Laptop.

(2) After work order has been generated, the ULLS-A will post the work order number on the DA Form 2408-13-1 for that fault.

e. Archive Procedures:

(1) Flight records and fault records archive process will be run monthly for each flight company computer by the assigned CE/mechanic.

(2) Diskettes will be provided by PC once per month and should be returned to PC upon completion of the archive process. Diskettes will be retained in the PC office for six months.

4.16.11 - PRODUCTION CONTROL PROCEDURES

a. General:

(1) Ensure that no other workstations are in use in the same database prior to performing the back-up and data transfer processes. Post the “Warning” poster over the key board of the other workstations.

(2) These processes will be performed for each assigned company on a daily basis.

b. Daily Database Back-up Sequence:

(1) Perform rebuild from within the ULLS-A program.

(2) Perform database back-up to tape from within ULLS-A program.

Note

Rotate back-up tapes on a weekly basis using the oldest tape set first.

(3) Monitor back-up procedure for error messages to ensure complete and accurate back-up.

(4) Mark each back-up tape with the unit and date of back-up.

c. Daily Data Transfer sequence:

(1) General:

(a) Data transfer process at the PC workstation should be completed by 1300 hours daily.

(b) Data transfer diskettes are to be filed in assigned crew binders in the PC office. These sets will be available to the crews by the start of each duty day.

(c) RAID transfer by MODEM method will be started at 11:00 hours daily.

(2) Receive Flight Company Diskettes:

(a) Verify sequence numbers.

(b) Research the cause of diskettes not received by the LAN immediately.

(c) File the data transfer diskettes in assigned crew binders for future use.

(3) Perform Fault Review Process:

(a) Report all “R” faults first, Then report all “A” faults.

(b) Answer “No” to “do you want a report of fault review activity” upon exiting the process.

(4) PC Review Process:

(a) Ensure demand is ordered against an open aircraft fault.

(b) Verify the quantity requested does not exceed what is needed to correct the fault.

(c) Verify proper entry in the NIIN field.

(d) “PC authorize” the demand for submission to the technical supply section.

(e) If the CE/mechanic has indicated he is at a work stoppage for the demanded part, state that again in the reviewer remarks section of the parts demand screen so that supply will correctly requisition the part.

(f) If demand cannot be authorized, check with the crew supervisor about invalid fault information.

(5) Send Process:

(a) Make sure the LAN send diskettes are clearly labeled as prompted with the ULLS-A data transfer process.

(b) Send diskettes will be copied as follows:

- Co B 1/140th Avn Bn make one (1) copy
- Co C 1/140th Avn Bn make two (3) copies
- 1/18th CAV make one (1) copy for each Troop
- Co A 640th DASB (AVIM) make one (1) copy

d. Work Order Process:

(1) Unit Work Orders:

(a) Work requests utilizing Annex A-13 (Maintenance Request) from the maintenance personnel will be reviewed as they are submitted to determine urgency of need and entered into the system on a daily basis.

(b) The Maintenance Request Register will be printed in shop code sequence on a weekly basis. Copies will be provided to the shop supervisors for review.

(c) Parts required for each work order will be annotated at the bottom of the maintenance request for tracking purposes.

(2) Support Work Order:

(a) Request for support work orders will be entered by the PC or shop personnel as received

Note

Supporting organizations require a DA Form 2407 for all work requests

(b) When the DA Form 2407 (green copy) is received from the supporting organization, enter their work order number into the ULLS-A system for tracking purposes and update the support status of the work request.

(c) Status updates from the supporting organization will be entered into the ULLS-A system until the work request has been closed.

(3) Archive Procedures:

(a) PC will run all archive processes monthly.

(b) Diskettes may be reused each month because there is no need to retain the archive diskettes produced by the PC office when archiving.

(4) Reports Procedures: PC will produce all required reports daily, weekly and monthly as needed by the Maintenance Officer of the Commander.

4.16.12 - QUALITY CONTROL PROCEDURES

Procedures for completing assigned responsibilities under the ULLS-A system will follow the ULLS-A End User Manual as written.

4.16.13 - TECHNICAL SUPPLY

Procedures for completing assigned responsibilities under the ULLS-A system will follow the ULLS-A End User Manual as written as well as:

a. “Process Parts Requests” process will be run daily at 1400 hours for each flight company. Each NIIN requested will be verified using the most current FEDLOG prior to processing.

b. For AMSS reporting, it is imperative that all “work stoppage” request be ordered as soon as possible when prompted within the “Request for Issue” process.

c. When processing parts requests supply will provide remarks and document numbers as necessary to inform maintenance personnel how a demand was processed.

d. When ordering bench stock items against an aircraft the following steps will be followed to prevent the item from being carried as non-stock PLL.

(1) Add the national stock number to both the aircraft’s owning company and the Float Bench stock lists.

(2) Order the quantity required for aircraft repair in the owing company in ULLS-A.

e. All requests for AVIM level parts and all bench stock replenishment actions must be completed in the W81LG9 database in ULLS-A in order to comply with NGB directives.

f. The “Send transaction to SOS” diskette produced by ULLS-A system will be submitted to CA AVCRAD at least weekly for each data base.

g. Status update diskettes will be entered into the ULLS-A system immediately upon receipt from the CA AVCRAD.

h. Automated follow-up request (AF1s) will be submitted on the 3rd week of each month for all open requisitions.

i. Bench stock and PLL lists will be printed monthly. One copy will be kept in the tech supply area and one copy provided to maintenance office.

j. The commander's Exception report will be produced along with the transaction diskettes and submitted to the maintenance officer for his/her review prior to sending transactions forward.
k. Refer to the AASF Supply SOP for general supply procedures not specifically related to the ULLS-A system.

4.16.14 - SYSTEMS AND DATA SECURITY

a. General:
(1) Back-up and transfer tapes and diskettes will be kept in the PC office and secured upon leaving the area.
(2) Laptop computers will be stored in the computer cabinets located in the maintenance office.
(3) A daily inventory will be conducted by the maintenance supervisor at the close of business to ensure that all laptop computers are present or accounted for. Inventory will be noted on the ULLS-A equipment log located in each computer cabinet.
(4) Laptops removed from the maintenance office will be signed for on the equipment log. Upon return of equipment the maintenance supervisor will sign-in the laptop on the equipment log.
(5) If ULLS-A equipment is removed for an extended period of time, i.e. Annual Training or deployment, the equipment will be signed for using a DA Form 3161 (Request for Issue).
b. Password Security:
(1) Security of IDs, Passwords, PIDs and TIPIDs is a responsibility of the individual. Care should be used to avoid allowing unauthorized persons to use them.
(2) At no time will any ULLS-A computer be left unattended in an operationally accessible condition, i.e., after LOGON.
(3) Passwords must be replaced every six (6) months.
(4) Passwords will be randomly selected, six (6) digit numerical passwords.
(5) A list of current passwords and most recently replaced list of passwords will be kept only with the System Administrator and the PC office. The list will be secured at all times.

4.16.15 - CARE AND MAINTENANCE

a. General: This section specifies requirements for the routine care and maintenance of the system in both garrison and field environments.
(1) Only disks that were procured through the supply system and approved by the ULLS-A administrator or System Support personnel may be used in the ULLS-A system.
(2) Only virus detection programs that have been approved and provided by the ULLS-A Administrator or System Support personnel many be used in the ULLS-A system.
(3) Previously used disks (for other than ULLS-A processes) will be presented to the ULLS-A administrator or system support personnel for verification and virus check before being introduced into any ULLS-A computer.
b. Preventive Maintenance:
(1) Approved procedures for preventive maintenance (PM) are described in the ULLS-A end user manual (EM).
(2) Regular cleaning of the disk and tape drives is necessary to ensure proper and reliable operation. At a minimum, the floppy disk and tape drives should be cleaned with an approved cleaning kit on a monthly basis.

4.16.16 - SOFTWARE & INTERIM CHANGE PACKAGE (SCP) & (ICP)

This section establishes the procedures governing the loading of change packages to ULLS-A.
a. Step 1. Back-up the entire system before beginning to load a SCP or ICP.
b. Step 2. Make sure to inventory the software package. Obtain a version description document (VDD), itemized list of software packages content, and one or more diskettes/tapes. The package

cannot be installed with missing media. Discrepancies in inventory should be reported promptly to the servicing CSSAMO.
c. Step 3. Check the version numbers of the software already installed on your system against the list included in the “Implementation and special instructions” section of the VDD. These must agree, or your SCP/ICP may not be successfully implemented.
d. Step 4. Read the VDD, then follow the instructions carefully. There is no need to reload the entire system. The VDD describes, in detail, all data necessary to install the software package and includes, as a minimum.
(1) The contents of the software package.
(2) The sequence of the software installation
(3) Any special instructions and administrative procedures about installation of the software package and reporting of installation problems.
e. Step 5. Load the software change package IAW the VDD.
f. Step 6. Post any changes to manuals/procedures if prescribed in the change package.

4.17 - PHASE (DOCK) MAINTENANCE

4.17.1 - BEFORE ENTRY INTO PHASE

a. The phase supervisor shall designate a phase inspection team for each aircraft. He shall also request a phase book be prepared from QC to include a blank serial number checklist for the appropriate airframe. He shall draw a line down each column of the final records review sheet in the phase book creating two columns. The left one shall be labeled “PRE” and the right one “POST”.
b. An engine compressor cleaning (With gas path cleaner) shall be accomplished before the aircraft is brought into hangar #2. After the compressor dry out engine run oil samples shall be taken.
c. Clean the aircraft and remove all articles from the aircraft interior.
d. Complete an aircraft inventory.

Note

Everyone signing in on the phase book shall print his name, sign his signature, enter his last name initial only (Just as it would appear over a status symbol) and enter his P.I.D. Use your P.I.D. in the column when an inspection item is completed in the phase book, not your initials

4.17.2 - IN-PROGRESS

a. The designated phase team shall perform a serial number check and document it on the serial number checklist. The historical portion of the serial number checklist can be performed at the convenience of QC.
b. Shops personnel shall inspect their respective portions in the phase book.
c. The crewchief from the flightline maintenance section shall work on deferred maintenance.
d. TIs shall provide support on request as needed.
e. Areas shall be closed after inspections are complete.
f. The ULLS-A laptop shall be maintained along with the logbook during the course of the phase inspection.
g. The phase team shall perform another serial number check at the end of the phase inspection and document it on the “Post” side of the serial number checklist.

4.17.3 - FINAL INSPECTION

a. TIs shall perform their final inspection and update the historical records.
b. An MTP shall be assigned and shall conduct a post phase flight readiness inspection.
c. The phase team shall perform a zero time closeout of the flight pack. He shall also make the following entry “Historical records review and update required by QC prior to test flight” followed by the reason, i.e. phase, replacement of engine, etc.
d. After all issues have been resolved the aircraft may be brought out of the hangar.
e. Shops shall provide flight line support as required for the post phase MOCs.
f. After all the MOCs are completed and the QC shop has made all necessary historical entries the post phase GTF may be conducted.
g. The phase team and any required shops shall provide support to the MTP until the GTF is completed.
h. After GTF completion the MTP shall sign off the post phase GTF entry in the logbook and phase book. Also, the MTP shall ensure that all other entries are made (New baseline HIT entries in ULLS-A along with new HIT chart, new compass cards, logging a TEAC, etc.). The test flight sheet shall be attached to the reverse of the DA Form 2408-13 for ease of verification and to accommodate multiple test flight requirements which may be on different 2408-13-1s.

i. After all these actions are completed the aircraft, logbook and laptop shall be returned to the appropriate flight line supervisor. The phase book, closed out flight packs and any remaining controlled exchange paperwork shall be turned in to QC.

4.18 - AUXILIARY POWER UNIT QUALIFICATION

4.18.1 - OBJECTIVE

To train non-crewmembers in the safe operation of the UH-60 APU for maintenance purposes.

4.18.2 - TASK

With the use of the UH-60 APU Operation Checklist, Annex A-A and TM 1-1520-237-CL, you will demonstrate the proper steps for pre-flight and operation of the UH-60 APU and the operation of all systems powered by the APU. You will also perform and recite from memory the emergency procedures and limitations associated with the APU as well as the systems powered by it.

4.18.3 - CONDITION

In a UH-60 with the UH-60 APU Operation Checklist, TM 1-1520-237-CL and a designated UH-60 APU Operator instructor.

4.18.4 - STANDARD

a. Individual will pass the written test with a minimum score of 80%, corrected to 100%.
b. Individual will pass a hands-on performance test with a minimum score of 100%

4.18.5 - SAFETY

The primary consideration during all operations is safety. If at any time there is any doubt about the safety of the operation, it should be halted and the situation resolved before continuing. Safety will not be compromised for any reason.

4.18.6 - APU QUALIFICATION TEST OUTLINE

Study materials used for the test should be provided to all personnel, scheduled to qualify, at least five working days in advance of the test date to allow sufficient preparation.

a. System Description
    (1) Battery
    (2) APU
    (3) APU Generator
    (4) AC/DC Electrical Systems
    (5) Back-up Hydraulic Pump
    (6) Back-up Hydraulic System
    (7) Fire Extinguisher System
    (8) Limitations
    (9) Emergency Procedures
b. Preflight
    (1) Use of Checklist
        (a) Tie-downs and covers
        (b) Battery
        (c) APU Accumulator
        (d) APU Fire Bottles
        (e) Back-up Hydraulic Pump
    (2) Cockpit Switches and Circuit Breakers: As per detailed checklist
c. Starting the APU
    (1) Switches for START
    (2) Emergency procedures for START
    (3) START

d. Operation
(1) Emergency Procedures
(2) Back-up Hydraulic Pump
(3) APU Generator
(4) Limitations
(5) APU
(6) Limitations
(5) Shutdown: Caution/Advisory/Warning panel
(6) Secure Aircraft

4.18.7 - UH-60 APU WRITTEN EXAMINATION

The following is a list of questions that will be utilized as a partial qualification for APU operations. The examinee must receive 100% to pass this test.

1. Which component monitors and controls the start sequence and operations of the APU?
2. The bite indicators incorporated in the ESU will indicate 13 distinct reasons for APU shutdown; The ESU bite indicators will retain the failure code after the battery switch is cycled.
(True or False)
3. How many personnel are required when starting the APU?
4. What minimum pressure must the APU accumulator be before attempting an APU start?
5. The back-up hydraulic pump switch must be in which position prior to APU start?
6. What position must the fuel pump switch be in for APU operations?
7. From where does the APU receive fuel?
8. If the APU does not start and the ”APU ACCUM LOW” advisory light is not on, what is the alternate method of APU start?
9. If the APU fails, how long must you wait before the second attempt to start the APU?
10. A confirmed fire illuminates the APU fire “T” handle. What are the immediate action steps?
11. During APU Start using battery power only and fire extinguishing is required, what position must the “FIRE EXTGH” switch be moved too?
12. Two seconds after placing the APU control switch to the on position you notice illumination of the “BATT FAULT” caution light, you immediately turn the battery switch off. What will happen to the APU?
13. Will the back-up pump operate when the APU is operating; yet the “APU GEN” switch is off; and no other source of AC power is supplied to the electrical system?
14. While you are operating the APU the Master Caution Light illuminates with the “APU OIL TEMP HI” light on. What do you do?
15. How long should you wait to check the oil level?
16. With the rotor system static, what are the temp/time/cool-down limits for the back-up pump?
17. Up to what temperature may the APU operate continuously, with the engines and rotor NOT operating?
18. To check the operation of the windshield anti-ice, AC power is required. Can the back-up pump and the windshield anti-ice be operated simultaneously? (APU power only)
19. The windshield anti-ice shall not be checked above what temperature?
20. Can the blade de-ice test be operated if the back-up pump is operating?
21. Whenever AC electrical power is applied to the helicopter and the back-up pump power circuit breaker is out, what must be done to prevent damage to the current limiters?
22. What segment lights are associated with the APU?
23. After you qualify to operate the APU. Will you be authorized to start an aircraft engine with the gust lock on?